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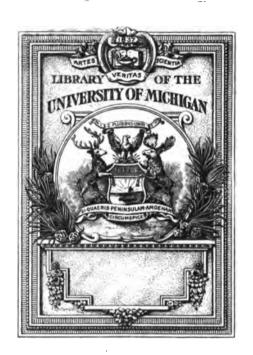
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RAINFALL AND SNOW OF THE UNITED STATES,

COMPILED TO THE END OF 1891,

WITH

ANNUAL, SEASONAL, MONTHLY, AND OTHER CHARTS.

 \mathbf{BY}

MARK W. HARRINGTON.

Published by authority of the Secretary of Agriculture.

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LETTER OF TRANSMITTAL.

U. S. DEPARTMENT OF AGRICULTURE,
WEATHER BUREAU,
Washington D. C., April 30, 1894.

Sir: I have the honor to transmit herewith a paper on the "Rainfall and Snow of the United States, Compiled to the End of 1891, with Annual, Seasonal, Monthly, and other Charts," and to recommend its publication as Weather Bureau Bulletin C. The charts referred to have already been published in atlas form under the same title.

Very respectfully,

MARK W. HARRINGTON, Chief of Weather Bureau.

Hon. J. Sterling Morton, Secretary of Agriculture.

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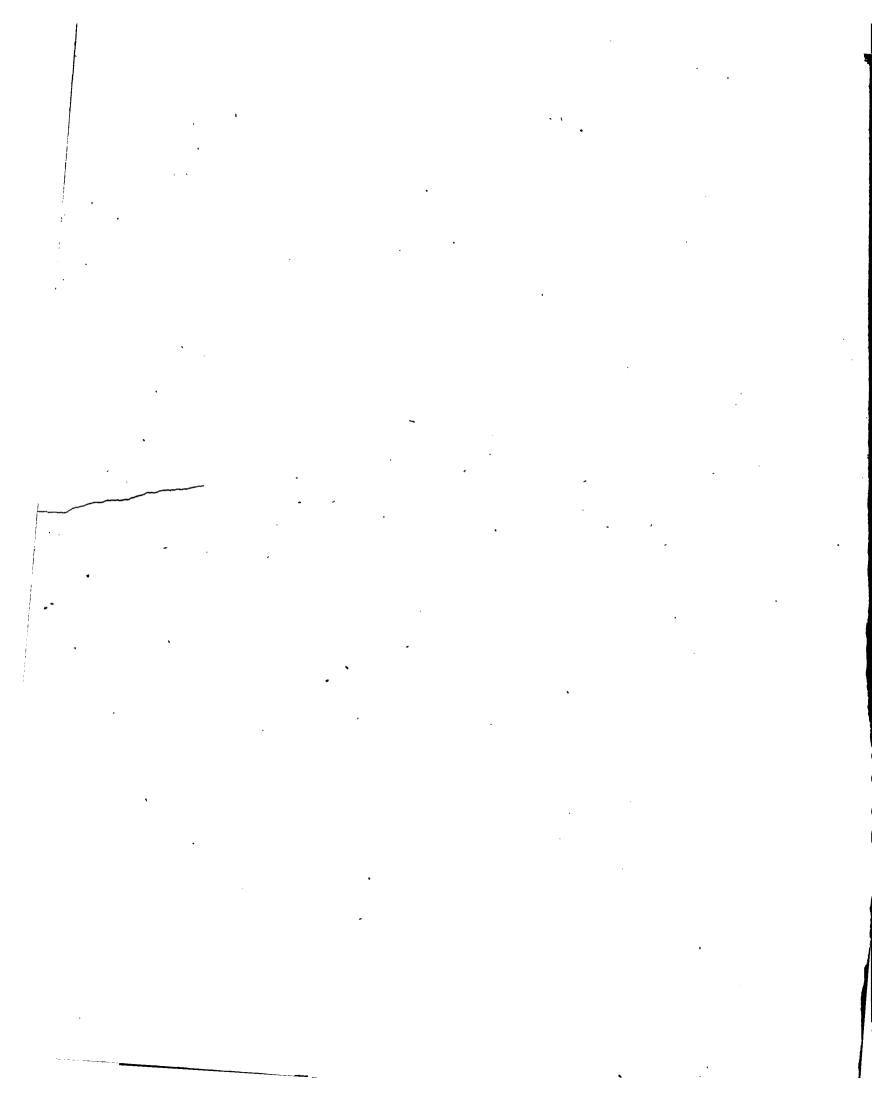


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INTRODUCTION.

The statistics of rain and snow, here given, include the most important series of observations that have been made from the early settlement of the country to the close of the year 1891.

The collection embraces the records originally contributed to the Smithsonian Institution in manuscript and others collected by that Institution from private individuals, those from the published journals of scientific societies and other associations, those made under the direction of the Medical Department of the U. S. Army, the Lake Survey, the Regents of the University of the State of New York, the Central and Southern Pacific Railways, the various State Weather Services and meteorological associations, the Signal Service and, finally, the Weather Bureau which succeeded it.

In forming the tables which appear here, reference was had, primarily, to the abstracts of monthly and annual amounts of precipitation already tabulated and in the files of the Records Division. Through the courtesy of the Secretary of the Smithsonian Institution permission was given, a few years since, to copy the manuscript tables collated by Mr. Charles A. Schott, Assistant, U.-S. Coast Survey, and used by him in the preparation of tables and results of the precipitation in rain and snow in the United States (Smithsonian Contributions to Knowledge, No. 353, 1872, 2d ed., 1881). The tables thus copied were brought down to date by the addition of the monthly and annual amounts for later years, when the observer continued his observations under the direction of the Signal Service and the Weather Bureau, and new abstracts were formed for stations occupied subsequent to 1874. Abstracts of the monthly and annual amounts of precipitation at each station in the United States, at which a record had been kept, were, therefore, available at the time the present work was begun.

The degree of precision with which the observations were made, excluding those of the Signal Service and Weather Bureau, must vary within a considerable range, according as the observers were possessed of more or less skill and intelligence. It rarely happens that an inexperienced person appreciates the importance of making a record of the occurrence of so simple a phenomenon as the fall of rain and snow in such a manner as to render it perfectly intelligible within itself. The omission of so manifestly important an entry as "no precipitation" where none occurred has led to much embarrassment in abstracting the monthly amounts, but not so great perhaps as the uncertainty which attaches to no inconsiderable number of records as to whether or not the snow has been melted and included in the total precipitation.

The accuracy of the tabulated results has been tested in several ways, principally by a comparison of the variations for corresponding months and years at surrounding stations situated under approximately similar conditions. Such other methods as the circumstances of each case would suggest have been used, and the results checked by further comparisons with the amounts obtained by trained observers of the Signal Service and Weather Bureau at stations in the same locality. The records of the latter, of which there are upward of 300 scattered throughout the United States have been given more weight than other series, since they were made under similar conditions and with more than an ordinary degree of care and accuracy. Of the voluntary observations as a whole it may be said that, so far as the broader features of rainfall variations are concerned, we can use the records as given without fear of serious error. A few cases of systematic under or over measure-

ment have been discovered, and there are also a few cases in which a portion of the record is of doubtful accuracy; all such instances, however, have been indicated by appropriate foot notes.

The diversity of sources from which these observations have been drawn has caused a considerable diversity of instruments and their exposure. From 1833 the Regents of the University of New York used a conical gauge, and their indorsement caused it to be used elsewhere. The Army Medical Department used the conical gauge from 1836 at many stations. The gauge first used by the Smithsonian Institution (1855–70) depended for its accuracy on the well-made metallic rim of the funnel over the receiver and on the graduated tube into which the rain was emptied from the receiver. Later the funnel was replaced by a metallic receiving cylinder with a smaller brass measuring cylinder, with a whalebone scale, divided by experiment so as to show tenths and hundredths of an inch of rainfall. Later still, some of the receivers were furnished with a conical bottom, the measuring tube was dispensed with, and the whalebone measure stick replaced by a wooden one. The rain gauge adopted by the Signal Service and retained by the Weather Bureau is of the same pattern. It is described in the publications of the Bureau. Recently, automatic registers have been introduced at many stations.

The older method for snow measurement, and a method often used yet, consists in getting the average fall of snow in the vicinity of the station and reducing it to its equivalent in rainfall by dividing by ten. At all regular stations the snow is melted to get the equivalent in water.

The exposure of the rain gauge is of especial importance, and in the earlier years of observation was not controlled, nor is it now, except by advice, at voluntary stations. Much stress was formerly placed on the height at which the gauge was placed. The New York Regents chose 8 feet and cautioned against more than 10. The Smithsonian Institution had its gauges placed flush with the ground. It is now known that the height is not of so much consequence, but that the important matter is to prevent wind-breaks or eddies. Doubtless the diversity of exposures has caused many discrepancies in monthly and annual mean values of rainfall, but a comparison of long series of observations with several changes of instruments and localities shows that these are of minor importance in the geographical comparisons to which this paper is chiefly devoted.

The actual work of preparing the tables used was entrusted to a force of clerks under the immediate supervision of First Lieut. B. M. Purssell, Nineteenth U. S. Infantry, detailed for temporary duty with the Weather Bureau. Lieut. Purssell had free access to the records of the Bureau, selected the stations for which tabulated results are given, and took the usual precautions to ensure the numerical accuracy of the various computations which appear in the work. Values in bold-face type which appear in the tables are approximations obtained, as a rule, by using the observed amount at the nearest stations, augmented or reduced according to the constant differences between the rainfall at the two stations. After the tables had been completed, it was found that many additional 5-year averages could be obtained by approximating a few months' records. The latter approximations were not used in obtaining the general sums and averages.

The construction of isohyetal charts from the data prepared under the direction of Lieut. Purssell was referred to a board composed of Maj. H. H. C. Dunwoody, Signal Corps, Assistant Chief of Weather Bureau, First Lieut. B. M. Purssell, Nineteenth U. S. Infantry, and Prof. H. A. Hazen.

On Lieut. Purssell's relief from further duty with the Weather Bureau, Mr. George F. Flint assumed charge of the work, then in an almost completed state, and later, the editorial supervision of the tables was delegated to Mr. A. J. Henry, of the Records Division. Mr. Henry and Mr. A. McAdie, confidential clerk, have aided me in revising the manuscript and reading the proof.

The previous publications of especial importance on the rainfall of the United States, as a whole, are the following:

Blodget, Lorin. Climatology of the United States, etc., with isothermal and rain charts. 8vo. Phila., 1857.

Schott, Charles A. Tables and results of the precipitation in rain and snow in the United States. Smith. Cont. to Knowl., 222. 4to. Wash., 1872.

The same: 2d ed. 4to. Wash., 1881.

Schott, Charles A. Rain chart of the United States, showing the distribution by isohyetal lines of the mean precipitation in rain and melted snow for the year. Constructed from materials collected and observations made for the Smithsonian Institution, with additions to 1872. In U. S. Census Office Statistical Atlas. Fol. Wash., 1874, pl. 5.

U. S. Signal Service. Charts showing the rainfall in the United States for each month from January, 1870, to December, 1873, based largely on reports from voluntary observers. 4to. Wash., 1888.

Dunwoody, H. H. C. Charts and tables showing the geographical distribution of rainfall in the United States. U. S. Signal Service Prof. Papers, No. IX. 4to. Wash., 1883.

National Academy of Sciences. Vol. V. Second memoir. Contributions to Meteorology. Chapter III. Revised edition. Rainfall. By Elias Loomis. 4to. Wash., 1892. U. S. Monthly Weather Review. Rainfall charts. (1873–'93.)

Prof. Loomis' paper was drawn up from the dynamic rather than the climatic standpoint, and the last is a series of monthly charts. The dates of the more general contributions are about ten years apart, 1857, 1872, 1883. This paper for 1894 continues the series at about the same interval.

RAINFALL AND SNOW OF THE UNITED STATES.

I.—MEAN AMOUNTS OF RAINFALL.

The mean monthly, seasonal, and annual amounts of rainfall and melted snow are given on charts i to xvii, inclusive. The lines of equal rainfall (isohyetal lines) are drawn for each inch of rainfall on the monthly charts. On the seasonal charts they are drawn for each 5 inches, except for regions where the seasonal total is 5 inches or less. In these regions the isohyetals are put in for each inch up to 3 inches. On the annual charts they are introduced for each 5 inches in areas where less than 10 inches fall annually, and elsewhere for each 10 inches.

In order to give precise information, where possible the actual mean amounts of rainfall have been given in figures on the maps over the stations where the rainfall is small. The number of years covered by the observations can be determined from the tables which accompany this paper. In general, no series of observations of less than five years has been used. The few exceptions to this rule have been in areas where the observations were needed to fill out the map.

Table I gives the annual amounts for each year and the means for the 5-year periods, beginning with the first and sixth years of each decade. The mean annual amount will not necessarily be the mean of these periods, because the former generally contains the results of observations in fractional parts of the 5-year periods.

A careful inspection of the charts will give an infinity of details of which each reader may obtain those most interesting to himself. The following points only will be selected for discussion because they are of general interest:

1. Least rainfall.—The least rainfall in the United States is found in the west and southwest. The limit of least rainfall for the purpose of this discussion will be taken at 1 inch per month, which is equivalent to 3 per season, and 12 per year. The area over which 1 inch or less per month of rain descends is migratory for the months, and in order to show the migrations Map 1 of Sheet xxii has been constructed. In order to make them plain and easily comprehensible the lines have been generalized, but the main facts are entirely correct as shown.

The area of least rainfall, as defined above, is smallest in April. At this time it occupies New Mexico, the most of Utah and Nevada, and parts of the adjoining States. The line of 1 inch of rainfall begins at the great bend of the Rio Grande, runs northwestward to Salt Lake City, thence westward to the vicinity of the boundary of California, thence southward and a little eastward to a point between San Diego and Yuma. By May the western boundary of this area has traveled westward and strikes the Pacific coast. The end of the line on the Pacific coast then progresses gradually northward with the succeeding months until, in August, it leaves the coast and the line crosses the area of the United States approximately from north to south. Meantime the heavier rainfall has begun in the extreme northwest, and a western boundary of the area appears in this month for the first time. The area in August, therefore, is bounded on the east by a line which is, approximately, the meridian of 115°. It is bounded on the west by a line which crosses the extreme northwestern angle of the States. The area which, in April, was bounded on the north has, by August, become a band crossing the United States. With the succeeding months this band travels gradually eastward and reaches its extreme eastern position in the winter months. It is outlined in this extreme position on the map. The eastern boundary extends from Rainy Lake on the north to

a point on the Rio Grande on the south not far west of Rio Grande City. The western limit is now, approximately, the meridian of 115°. With the beginning of spring the area travels rapidly westward, and by April it has taken up the position with which we began. This area, therefore, begins in a relatively small space in the southwest, in the interior, spreads up the Pacific coast, then travels eastward, reaching its eastern limit in winter, then contracts again to occupy its least area in April.

In this band there is generally a number of small areas where the rainfall is more than 1 inch per month. These are islands of higher rainfall in the general area of least rainfall. They are usually mountain regions, and they are much more extensive in the largest expansion of this area, in winter, than they are in the smallest, in April. Taking into account these islands the April extent of the area of least rainfall in the United States is about 400,000 square miles. The winter (greatest) extent is about 1,000,000 square miles, or, approximately, one-third of the total area of the United States, excluding Alaska.

The area of least rainfall is not confined to the United States. It extends to the southward over Mexico, and this extension continues during the whole of the year. There is an extension northward which begins in July and lasts until March. In the period of greatest extension in the United States, namely, in winter, the band extends northward and slightly eastward, and probably occupies the plains to the north of us, finally joining the Arctic area of least rainfall.

An interesting fact concerning the area of least rainfall is that little, if any part, of the United States is within it during all months of the year. Even the dry areas of Nevada are outside of this band during the winter, and the dry areas of Arizona are outside of the band in August. A more detailed examination may show that a small corner of southwestern Arizona and southeastern California remain within it during the entire year; but observations are too sparsely scattered over this region to enable us to settle the matter positively.

2. Greatest rainfall.—To test the areas of greatest monthly rainfall in the United States, I have taken a maximum of 6 inches of rain in a month and have studied the areas over, and the months in, which it occurs. As a result it appears that there are six different regions in the United States where the rainfall is, in some months, above 6 inches. These are shown on Map 2 of Sheet xxii, and will be considered in succession.

The first (a) is in the extreme northwest. It begins at Tatoosh Island, Wash., in October. It gradually increases and reaches its greatest extent in December. At this time the line of six inches of rainfall, entering the United States on the north, south of Vancouver Island, extends down along Puget Sound; thence southward to Mount Ranier; thence eastward along the Columbia River up to the Cascade Mountains and back to the Willamette; thence south, not far from the coast, disappearing on the coast not far to the north of San Francisco, Cal. The highest monthly rainfall at this time is 14.5 inches in the vicinity of Tatoosh Island, Wash. There is a small outlier to this area on the Sierra Nevada Mountains.

The second area (b) is a very variable one in Alabama and Mississippi and extending to some extent into the adjoining States. It begins in January and continues until March. Its greatest extent is in March and is as shown on the map. The highest rainfall in this area is 9 inches in March.

The third area (c) is one in northeastern Texas, extending slightly into Indian Territory. It is found there only on the maps for April and May. It reaches its greatest extent, as shown on the map, in May, and the highest rainfall within its borders is 9 inches.

The fourth (d) is a small patch to be found in northern Missouri in May and June. The highest rainfall in this area is 9 inches.

The fifth (e) is a curious and interesting area, beginning properly in March and continuing to October, but found on the monthly map also for January. It begins at Cape Hatteras, extends gradually inward, never reaching far from the coast, and attains its extreme limit in July and

August. At this time it covers extreme southeastern Virginia, the eastern third of North Carolina, and a considerable part of the coast of South Carolina.

The sixth area (f) is the region of subtropical rains in Florida. It begins in June and ends in October. Its greatest expansion is in July, and also the greatest rainfall, which amounts to about 10 inches. It covers all of Florida in July, except the extreme southern point of the peninsula. It extends also into southern Georgia, thence westward along the Gulf coast to the middle of the coast of Louisiana.

Referring to area b, as just described, it appears that within it there is a small area of unusually high rainfall at the southern extremity of the Appalachian Range. It is within the region on the annual map marked by the line of equal rainfall of 60 inches. This is distinctly a part of area b, as above described, but it differs from the rest in not being seasonal. The high rainfall in this small region continues with fair uniformity from season to season. Attention has been especially called to this area by Mr. B. C. Hawkins, voluntary observer of the Weather Bureau at Horse Cove, Macon Co., N. C. He says, in a special report for 1893:

I wish to call the attention of the Weather Bureau to the fact that there is a small area, embracing, probably, parts of Macon, Jackson, and Transylvania counties, N. C.; Oconee County, S. C., and Rabun County, Ga., that has an annual precipitation of over 76 inches. Records for about seven years at Highlands, Macon Co., N. C., give an average of over 76 inches. Apparently, this area does not include the western part of Macon County; for Franklin has an average of over 57 inches in twelve years. I have records for two years here [that is, at Horse Cove], the total for 1892 being 93.33 inches, the largest annual total east of the Mississippi River. There are no other stations in this "rainy area", unless perhaps Columbus, N. C., and possibly Clayton, Ga.

This is a matter of very considerable interest, because it appears that in this small area the total rainfall approaches that to be found in the extreme northwest of the United States. The largest rainfall in the northwest is at Neah Bay, Wash.; average for eight years, 108 inches; greatest, 136 inches in 1879. The high rainfall in southwestern North Carolina is undoubtedly due to the passage of storms over the extreme southern end of the Appalachian Range. The Gulf storms, and storms that travel along our southern latitudes, are usually heavily charged with rain. When these come in contact with the mountains they discharge more of this rain than elsewhere, and the amount discharged will be greatest for the southern extremity of the range; hence, we find in this very limited region a very high rainfall.

3. Topography and its effects on rainfall.—From the great plains westward the lines of equal rainfall are, approximately, north and south. In the Southern States, east of Texas, they are approximately parallel to the Gulf coast. In the Eastern States they are approximately parallel to the Atlantic coast. In the Lake region, while they approach parallelism to the parallels of latitude, yet there are some variations, evidently due to the effects of these great bodies of fresh water and their temperature at different seasons of the year. In the vicinity of Cape Hatteras and on the Peninsula of Florida other influences come into play, modifying the direction of the lines of equal rainfall. Cape Hatteras is the point of highest rainfall along the Atlantic coast, due, undoubtedly, to the seasonal winds which pass at sea and reach, more or less, this prominent point.\(^1\) On the Peninsula of Florida we approach the tropical region and approximate the laws of tropical rainfall. East of the ninety-fifth meridian the rainfall decreases as the latitude increases. West of that the general topography of the continent causes the lines to run north and south.

In general the rainfall decreases also with the elevation above sea level. This is very noticeable in passing along, for instance, the parallel of latitude 40°. The annual rainfall on the coast in New Jersey ranges from 40 to 50 inches. As we pass westward we come to the area where the rainfall is about 40 inches. This rainfall continues along the parallel until the vicinity of the Mississippi River is reached, when it decreases with the comparatively rapid ascent of the slope to the great

¹See combined records of Cape Hatteras and Hatteras.

plains. By the time Kansas is reached the annual rainfall has fallen to 30 inches; in western Kansas it is only 20 inches, and in passing the boundary of western Kansas we pass the annual rainfall line of 15 inches. On the Pacific slope the phenomena are more complex, because of the prevailing winds and the more rapid ascent from sea level in the region of the Sierra Nevadas.

A very remarkable feature in the rainfall of the United States, appearing on most of the monthly maps, and distinctly on the annual map, is the way in which certain peaks and ranges of mountains are outlined by the mean rainfall. Taking first, the Sierra Nevadas, we find them distinctly outlined on the annual map from Pitt River at the north to Owens Lake at their southern end. It is quite remarkable that Mount Shasta, north of Pitt River, appears to have very little effect on the rainfall. This is not due to the absence of stations, because the stations are as thickly distributed in the vicinity of Mount Shasta as elsewhere in this part of the territory of the United States. In the Sierras themselves the greatest effect is observed to the northeast of Sacramento, at about the point where the Central Pacific Railroad crosses the range. In January, for instance, in this vicinity the rainfall amounts to 10 inches, and it decreases rapidly as one proceeds eastward, and almost as rapidly westward to the valley of the Sacramento River. In February the rainfall here is from 8 to 9 inches, being decidedly larger than that on either side. In April it has fallen to 5 inches, and in May to 2 inches. It still, however, keeps a distinctly higher rainfall than that which appears to some distance east and west. From June until September this effect almost disappears, but reappears with the beginning of the rainy season in October, at which time these mountains are slightly outlined. In November the rainfall in this region is 6 inches, and in December 6 to 7 inches. In winter there are 28 inches of precipitation on this mountain range, nine times as much as falls at a distance of not over 50 miles to the eastward, and three times as much as falls at a distance not more than 75 miles to the westward. In spring it is about 15 inches. For the year the rainfall on the range at this point is about ten times as much as in the western part of Nevada, just to the east of the mountains, and between two and three times as much as that found in the Sacramento Valley.

Very much the same phenomenon, but not so well marked, is to be found in the Cascades at The Dalles, where the Columbia River breaks through, and it is undoubtedly to this surplus of rain, relatively, that these mountains owe their name. In spring this area is distinctly outlined with a rainfall of 15 inches, while in the Willamette Valley it is only about 10 inches, and at the great bend of the Columbia only about 5 inches. In summer, which is the dry season in this area, the effect is nearly effaced. In autumn the mountains are very distinctly outlined, and the rainfall in this particular district is 20 inches, while along the Willamette Valley it is only 10 inches, and immediately to the east of the mountains it is only 5 inches. In winter the whole range is outlined by the lines of greater rainfall. The greatest rainfall observed is 38 inches or more. The rainfall in the Willamette Valley is only from 18 to 24 inches, and just to the east of the mountains, but a few miles distant from this region, it is only 15 inches. On the annual map the lines define the range for a large part of its length, extending from opposite Seattle, Wash., to eastward of Salem, Oreg., a distance about 175 miles.

Another series of facts of very great interest can be read from the maps in the consideration of the relations of rainfall to the leeward and windward sides of the ranges. This is by far the best marked on the Pacific coast, where the prevailing winds are distinctly from the west and reach the coast laden with moisture from the warm ocean. To the westward, for instance, of the Sierra Nevadas, on the annual map there is a rainfall of from 20 to 40 inches. Immediately to the eastward of this series of mountains the annual rainfall is only from 2 to 6 inches. Much the same is true of the Cascade Range, and even the Coast Range has a very marked influence on the rainfall. The annual line, for instance, of 40 inches of rainfall passes down the coast from Vancouver Island almost parallel to and westward of the Coast Range, although for most of this distance these mountains are quite low. The line of 40 inches goes into the interior only up the Columbia River and

along the Cascade Range. A similar parallelism is found, but not so marked, along the Coast Range in California, the most marked effect there being over the high Sierra Nevadas which lie to the eastward, and in the mountains lying to the eastward of Los Angeles and San Diego in southern California. On the peaks of the latter mountains 30 inches of rain fall during the year. Along the coast there are only 10 or 15 inches, and by passing a few miles eastward to the Colorado and the Mohave Desert we reach the point where the rainfall is so small as to be almost nil. To the eastward of where 30 inches of rain falls every year is to be found the area where the rainfall is least for any place in the United States, namely, the Mohave Desert. At one station in this area the average annual rainfall is only 2.1 inches.

Another feature of great interest, which can be observed to a marked degree on the annual rainfall map, to a less degree on the maps for the seasons, and can even be detected on many of the monthly maps, is the existence of islands of greater rainfall in the areas of least rainfall, as already described. Some of these islands have already been mentioned in connection with the least rainfall. They occur in considerable numbers in Arizona. For instance, on the reservation of the Apaches, near the headwaters of the Gila River, is an area where over 20 inches of rainfall have been observed. This area extends eastward to the edge of New Mexico. The rainfall decreases from this center in every direction, and soon falls to 15 inches, and even to 12 inches, annually. Just to the south of this and to the northeast of Tucson is an area where the rainfall is above 15 inches, about twice as much as that in the surrounding district. Also, to the northwest of the island first described, in the vicinity of Prescott, and in the region where originate many of the tributaries of the Gila and Colorado rivers, is an area of rainfall of 15 inches and upward. In New Mexico there are several such islands. One is in the vicinity of Fort Stanton, among the mountains to the east of the Rio Grande. Another is to be found in the high mountains from Santa Fe and Las Vegas northward, where the rainfall surpasses by 5 or 10 inches that in the area immediately around it. Several such areas may be found also in Colorado, usually in the vicinity of high mountains, most of them being to the southward and westward of Denver, one including Pikes Peak. The rainfall in this small district is 30 inches and upward, and at a very short distance in any direction it decreases to 15 inches. Another island of similar sort is to be found over the Black Hills.

A common feature of these islands is that they occur at the sources of many of the great rivers of the west. It has already been mentioned that the branches of the Gila River originate in the islands which are found in Arizona. From the island which is found in northern New Mexico and southern Colorado comes the Rio Grande, and in the latter area the snowfall in some winters is extremely heavy. Indeed, reports are occasionally made that the snow lies here from 15 to 20 feet, sometimes covering the small native houses.

In the islands of higher rainfall found in the vicinity of Denver originate branches of the Arkansas River, of the Platte branches, north and south, and of the Grand River, an affluent of the Colorado. In the island which is found about the Black Hills originate many of the branches of the Cheyenne River, running eastward, and of the Little Missouri River, running northward. An interesting island is to be found in northern Georgia, southeastern Tennessee, and southwestern North Carolina, and has already been discussed. In it originate many of the rivers which reach the south Atlantic or Gulf coasts.

A very remarkable fact, to which attention has apparently not before been called, is that, while most of the rivers in the United States originate either in areas of abundant lakes or of relatively high rainfall, some of the principal rivers of Texas take their source at the margin of an area of especially low rainfall. The area in question is in western Texas and southeastern New Mexico, and on the edge of it are to be found the sources of the Brazos and of the Colorado rivers, the longest rivers which lie entirely within Texas. It would be interesting to learn why two rivers of this size should find their origin in a territory especially marked by its absence of heavy rainfall. The rainfall in this territory is less than 20 inches, and for a considerable area it is less than 10 inches per year.

Another curious fact which may be mentioned in connection with the general rainfall of the United States is that, generally, the great swampy areas occur in regions of highest rainfall. This is true, for instance, of the everglades of Florida, where the rainfall is from 50 to 70 inches per year. It is also true of the great swampy district lying on the coast of North Carolina, where the rainfall is 60 inches per year, and upward; also, of the swampy district about the mouth of the Mississippi River; but is not so true of the celebrated swampy district lying to the west of the Mississippi along the Gulf coast. About the mouth of the Mississippi River the rainfall is above 60 inches, while for the celebrated swampy district to the westward (so wet that one can in some cases stand on a meadowland and shake it for some distance around by the motion of his body) the rainfall is less than 60 inches, though it is above 50 inches. This wet area has probably been but recently recovered from the Gulf by deposits brought down by the great river.

It is interesting to notice the effects of the Great Lakes on the rainfall visible on most of the maps. In general, it will be found that the rainfall is greater on the east shore of Lake Michigan than on the west shore. It is to be noted that the prevailing winds here reach the Lake from the west. Either they gather up considerable moisture from the Lakes which is deposited on the east shore, or, what is more probable, the temperature of the Lake is such as to chill the air and cause it to deposit more of its moisture on the east shore than on the west. Much the same is true of the east shores of Lake Erie and Lake Ontario, areas which are small in both cases, because the lakes themselves lie east and west. There is, however, a distinct increase of rainfall along the southeastern coast of Lake Erie and to the east of Lake Ontario. These features can be traced on the monthly maps, but more perfectly on the seasonal ones. The effect seems to be somewhat more marked in the cold seasons than in the warm, and it is a noteworthy fact that the areas of deep snows in Michigan and New York are found to be on the same line. The area of deep snows for southern Michigan is from the middle of the west coast, in the vicinity of Manistee, nearly straight across the peninsula; the area of deep snowfall in New York is to the eastward of Lake Ontario, and, to some degree, to the southward, in the immediate vicinity of the lake. It should also be noted that the area for deepest snow in the United States not mountainous is along the south shore of Lake Superior, from Marquette eastward. This would quite agree with the suggested influence of the Lakes, in that the air passing over Lake Superior comes largely from the northwest, and by the time it reaches the coast in question has already received a surcharge of vapor chilled by the surface of this lake.

4. Snow.—In general, on the maps of precipitation the snow is not distinguished from the rain. It is usual to reduce the snowfall to rainfall and enter both in the record. This is, of course, only for snow in the vicinity of the stations, the depth remaining on mountain peaks not being considered. From these observations some conclusions can be drawn of the way in which the snow layer extends itself over the country, from the first to the last snowfall. These results are, from the nature of the observations, not so exact as those which have been utilized on the rainfall maps; but they are of some value, and conclusions to be drawn from them can be obtained by consulting the eight maps on Sheet xviii, which show the depth of snowfall for each month. The zero line is the southernmost limit of snowfall during the period under observation (five to twenty years).

An important feature of snowfall is that of the snows which lie permanently, or through a large part of the seasons, on mountain tops. It is from this snow that the western rivers take their source, and the waters from its melting are, to a great extent, those used in irrigation. Such is the source of the water of the Columbia River, for the most part north of our boundary; also of the Sacramento and San Joaquin during the early part of the season, and to some extent, during the whole year. In central and western Colorado are a number of mountains on which the snow lies for the most of the year, in some cases for the entire year, and from these are derived the waters of the highest streams of the rivers which take their source in this vicinity. The waters of Salt Lake Basin are to some extent furnished from the same source. The Rio Grande River rises in

the melted snows in central and southern Colorado. In many places this snow remains during the year. As the Rio Grande receives very few affluents of any size the height of its water depends on the melting of this snow. The same is also true of the Arkansas, the Platte, the Cheyenne, and the upper Mississippi rivers. It is to the existence of this snow that is due a fairly constant current of water in the arid and semi-arid regions permitting irrigation. The snows are consequently of the highest importance to the western region, and a more detailed investigation of them, their depth, their amount, their distribution, and their disappearance is very much to be desired.

5. Distribution by States.—It is interesting in this connection to observe the distribution of rainfall by political divisions. This does not necessarily have the significance that might be attributed to it, however. It does not follow that because a State has a low rainfall that it is unsuited for agricultural operations, nor does it follow that because a State has a heavy rainfall, the same is true. Suitability for agricultural operations depends on the distribution of rainfall during the year and on its character, whether, for instance, it comes in very heavy falls for a few days, or is scattered in light rainfalls over many days. It also depends upon the capacity for irrigation on the one hand, and for draining on the other. With these preliminary statements it is interesting to note the classification of the rainfall according to the amounts in the different political divisions.

There is but one State (see Table II) that has a less average annual rainfall than 10 inches. This is the State of Nevada. In this State the annual rainfall is only 7.6 inches.

The States in which the annual rainfall is between 10 and 20 inches are the following, in the order of the amount of rainfall: Utah has 10.6 inches on the average; Arizona, 10.9 inches; Wyoming, 11.6 inches; New Mexico, 12.7 inches; Montana, 14.0 inches; Colorado, 14.8 inches; and Idaho and North Dakota, each, 17.1 inches.

Next in interest are the States of greatest annual rainfall. These, in order, are: Florida, 54.9 inches; Louisiana, 53.9 inches; North Carolina, 53.7 inches; Alabama, 53.6 inches; Mississippi, 53.0 inches; Georgia, 51.4 inches; Tennessee, 50.7 inches; and Arkansas, 50.6 inches. These are the only States in which the annual rainfall is above 50 inches. It is a curious fact that in Oregon and Washington, in which are found the stations of highest rainfall in the United States, the average annual rainfall is 44.0 and 39.8 inches, respectively. This is, of course, due to the fact that this heaviest rainfall is a purely seasonal one on the Pacific coast, and also to the fact that this rainfall is heaviest along a narrow strip in the immediate proximity to the coast. A full half of these two States lies in the region of little rainfall to the leeward of the Cascade Range of mountains.

Another feature of interest with reference to the political divisions is that of the relative variations of seasonal rainfall during the seasons (Table II). By relative variations of seasonal rainfall is meant the answer to the question, is the rainfall evenly distributed through the year, or is it much greater at one season of the year than at another? Taking first the States in which the rainfall is most evenly distributed, we find that in Massachusetts the season of maximum rainfall is only .05 inch greater than the season of minimum rainfall. In Connecticut it is .13 inch; in Delaware, .15 inch; in Rhode Island, .16 inch; in Maine, .17 inch; in New Jersey, .20 inch; in Indiana, .21 inch; in New Hampshire, .24 inch; and in Illinois, .45 inch. On the other hand there are several States in which the difference in rainfall in different seasons is very remarkable, as, for instance, in California the rainfall is forty times as great in the maximum season as in the minimum season. In Oregon it is 7.8 times as great; in Nebraska, five times; in North Dakota, 4.7 times; in Washington, 4.3 times; in New Mexico, 4.2 times; and in Nevada, four times as great.

The distribution by States and seasons of this variation is shown on Map 3 of Sheet xxii. From Texas to Maine and from Michigan to Georgia the variation is small—never that of 1 to 2. In the other States the variation is more than 1 to 2. In the States of Idaho, Wyoming, and Colorado the rainiest season is the spring. In the upper Mississippi and Missouri valleys, from Kansas north and Wisconsin west, the rainiest season is the summer. This is also true of New Mexico and Arizona. Florida has its heaviest rainfall in the autumn, and the remaining States in

the West, with Utah, in the winter. A more detailed discussion of this feature in Part II will show that in the northern region of summer rains the maximum is in early summer, in the southern in late summer.

Another interesting point is the average rainfall for the entire United States. The average of all stations, by States, gives for spring, 9.2 inches; for summer, 10.3 inches; for autumn, 8.3 inches; and for winter, 8.6 inches, and a total for the year of about 36 inches. It appears that the rainfall over the United States generally is quite evenly distributed through the year, varying in total amount for the seasons from 10.3 for summer to 8.3 for autumn. The spring and summer rainfalls are the highest; other things being equal the rainfalls of spring and, next to that, of summer are the most useful for agricultural operations.

With the depth given it is not difficult to get the average total rainfall for the entire United States (excluding Alaska, where we have not sufficient information). For this purpose we may take the average for each State and multiply it by the area of the State, including water surfaces (Table II). Adding these together we get 1,407 cubic miles as the average annual total of water which descends as rain or snow in the United States. The figures for the areas are taken from the census for 1890. The annual depth of rainfall which this gives is 29 inches, or less than that given by the other method. This is to be expected, as the other method gave equal weight to each political division, and these divisions are generally smaller in the regions of greater rainfall.

To get some conception of this enormous mass of water we may compare it with the contents of the Great Lakes, and an approximate comparison is near enough. Lake Ontario is about 200 miles long and 70 broad, and its average depth is about 40 fathoms. It, therefore, contains about 636 cubic miles of water. The annual rainfall would fill it two times and leave something over for a third time. Lake Michigan is about 310 by 70 miles and has an average depth of about 50 fathoms, and consequently contains about 1,233 cubic miles of water. The average annual rainfall would fill Lake Michigan and leave 174 cubic miles over. Four years of rainfall would probably be enough to fill all the Great Lakes.

The amount of mechanical work which the raising of this involves is enormous and the ordinary conception of it is quite inadequate. Some idea of it can be reached as follows: One inch of rain per acre makes 22,624 gallons, which equals 226,613 pounds. On a square mile the inch of water would weigh 72,516.4 tons (of 2,000 pounds each). A cubic mile of water would be this weight \times 5,280 \times 12 = 4,593,639,104 tons, or if the average temperature is a little above 39° F., = 4,500,000,000tons. The total weight of our rainfall (excluding Alaska) would be this multiplied by 14.07. This gives the enormous quantity of 6, 332,000,000,000 tons. Let us take as a unit of handy measurement the weight of one of the lakes, say Ontario-636 cubic miles. A cubic mile of water weighs 4,500,000,000 tons. Hence, Ontario weighs 2,862,000,000,000 tons. Our average rainfall, weighing 6, 332, 000, 000, 000 tons, is therefore 2.2 Ontarios. The rain descends from clouds which average half a mile in height, and in raising the water to this height before falling, nature must perform the work of lifting 3, 166,000,000,000 tons one mile per year, or 1.1 Ontarios. This, in work per day, is nearly 9,000,000,000 tons lifted one mile, and reduces to something like a lift of 100,000 tons per second. A ton lifted one mile per second is 19,200 horse power. The work done by nature, therefore, in raising the rainfall to the clouds is equivalent to $100,000 \times 19,200$ horse power, or 1,920,000,000 continuous horse power, or the work of 5,000,000,000 horses working ten hours a day—perhaps a thousand times as many horses as there are in the United States.

6. Disposal of the rainfall.—The rain which falls over an area can be disposed of in four different ways, and each of these ways plays its part. It may, in the first place, flow off from the surface of the ground to the smaller streamlets, thence to the streams and rivers. In the second place it may pass into the ground, percolate through the soil, and a quantity of it eventually reach the streams by way of the springs. Third, a considerable portion of it will be disposed of by direct evaporation, and this evaporation may occur on the surface of the ground, or of snow, or on other

objects which have been wetted by the rainfall or loaded with snow, or from the surface of the streams and other bodies of waters themselves. Fourth, a small part is disposed of by being utilized in organic changes in animals and plants, or chemical changes taking place in the soils and rocks. These different methods can not be entirely separated from each other, and all result in final evaporation as the source of rainfall. The part of the rain, for instance, that reaches the streams, is later evaporated in the streams or in the ocean; a part of that which percolates through the soil is utilized by vegetation, but a considerable part reaches the streams eventually. We might endeavor to get the relative proportions of the different methods of disposal, but the data are insufficient for exact statements, especially so for evaporation. Observations of evaporation have been taken at but few points in the United States, and where taken they are generally under conditions not reproduced in nature, so that even the data which we have derived are not suitable for use. The only method of disposal which we can treat with any approximation to correctness is that of the run-off, and even this but approximately. For the purpose of this approximation I have made use of a map of the run-off, which, at the time of this writing, is still in manuscript. It was prepared by Messrs. Gannett and Newell, of the U.S. Geological Survey, who kindly furnished me with an early copy, and is to be considered as only a preliminary survey of this field. By means of this map and of the map of annual rainfall, we can estimate for areas as large as States the proportion of the rainfall which is carried off by the streams, and draw some interesting conclusions.

For the area of the United States east of the ninety-fifth meridian the run-off is from 35 to 50 per cent of the total rainfall. It appears to be largest in the vicinity of the Great Lakes, and diminishes from this region slowly to south and east, and rapidly toward the west. In the Lower Peninsula of Michigan, for instance, the run-off is 50 per cent of the total rainfall. Along the Gulf coast it appears to be only from 30 to 40 per cent, and along the Atlantic coast it probably varies from 30 to about 50 per cent. In general, for the interior States east of the ninety-fifth meridian the run-off is between 40 and 50 per cent of the total rainfall.

As soon as we cross the ninety-fifth meridian westward we find a very sharp fall in the percentage of run-off to the total rainfall. For the band extending north and south between the ninety-fifth and one hundred and fifth meridians this percentage varies from 10 to 25 per cent, and over Iowa is about 33 per cent. The percentage is highest at the northern end of the band indicated, and lowest at the southern end. Going still farther westward we come to another very marked area, that of the Continental Divide; here the percentage of run-off suddenly increases, reaching the highest figure to be found in the United States. From Montana to Colorado it varies from 60 to 70 per cent of the total rainfall. In New Mexico it falls to about 33 per cent. This is evidently on account of the easy flow of water from the mountain ranges in the area in question. West of the Divide the run-off is again small, being only 15 or 20 per cent in Arizona and Nevada, about 30 per cent in Idaho, and nearly 50 per cent in Utah. Utah, it seems from its topography, partakes of the character of the band lying just to the east of it. Along the Pacific coast the run-off is about 25 per cent in Oregon, 30 per cent in Washington, and between 45 and 50 per cent in California.

In general, we may say that the run-off on the more level areas of the United States is less than 50 per cent, and on the great plains may fall as low as 10 per cent. In the mountain regions it may rise to as high as 70 per cent. In the relatively dry areas, or the areas of distinctly dry seasons, the percentage is very much reduced.

The disposal of rainfall by direct evaporation, by percolation, and by utilization in chemical changes can not be estimated with sufficient approximation of accuracy to be useful.

7. Variations in the annual rainfall.—A question of great interest in connection with the rainfall of the United States is whether it is increasing or decreasing, or whether the areas of highest or lowest rainfall are extending their boundaries. The latter question has been very much discussed, and many varying views have been expressed upon it. In order to state it here with as much accuracy as the data will permit, the annual rainfall reduced for the series of 5-year means has been

used. These means were entered on a succession of maps, five years apart in time, and on these maps was drawn the line of 40 inches of annual rainfall. This line crosses the States from the northeast to Texas, passes through the region where the rainfall has been observed with the most care and for the longest time, and is, therefore, most suitable for this use. The question would be, as we draw this line for each 5-year mean, does it change its position in any regular and systematic way? Is it found further east or further west at the end of these periods than at the beginning; or further north or further south?

Map 4 of Sheet xxii will show how this question is to be answered. On it have been placed the different lines for 40 inches of annual rainfall, one upon another, for six 5-year periods, and if there is any regular or systematic change in the rainfall within that period, it should appear plainly on this map. An examination of the details of these lines shows that while they are subject to limited fluctuations, while the rainfall of 40 inches may spread out in one case to a point far northward or westward of that which it occupied in another case, yet on the whole there are no uniform or systematic fluctuations. The line of equal rainfall for 1861-'65 occupies nearly the same position as the line for 1886-'90. The variations are sometimes extensive, but there is no systematic progress in them. It would appear, therefore, with the data at command, that there is not sufficient evidence of systematic fluctuations of the rainfall. This is of especial interest, for it has been claimed that there are evidences that the lines of equal rainfall are gradually progressing westward over the plains with the advance of civilization over that area. This is not supported by the facts represented on this map.

- 8. Daily rainfall.—The statistics, for twelve selected stations, of the rainfall for each day of the year are given in Table III. The feature employed in drawing up the table is the percentage of the days on which rain has fallen on the date in question. Thus, if the number given is 33 it means that out of the whole number of recurrences of the date rain fell in 33 out of a 100, or about once in each three. An examination of the table shows a rough periodicity of four or five days. The number of years is too few to determine if this is an actual period of rather vague character or if the phenomenon is so lawless, from the standpoint of recurrence in parts of a year, that the number of years of observations are not enough to eliminate the irregularities. In favor of the first view is the fact, to be seen by a careful inspection of the table, that the maxima in the upper Mississippi Valley often precede by a day or two those on the Atlantic coast; also by the fact that these waves do not disappear when several stations on about the same meridian are combined, making an aggregate of about a hundred years of observations. There is evidence of a vague character that waves of warmer mean temperature sweep over the country in somewhat similar periods.
- 9. Hourly rainfall.—The automatic record of rainfall now makes it possible to study its distribution through the hours of the day. The phenomenon proves to be a somewhat lawless one and only those stations are taken where the observations have continued for a series of years. This is the case at Blue Hill Observatory, near Boston, Mass. (six years), at Central Park Observatory, New York, N. Y. (twenty-three years), and Washington, D. C. (sixteen years). The records have been combined and the results are given in Table IV by months and seasons.

The instruments used at these stations are different. At the first and second the record is made by the weight of the water, at the third by the height of water by use of a float.

The self-recording rain and snow gauge used at Blue Hill Observatory was constructed by Richard Bros., of Paris, after the design of Mr. A. L. Rotch, the proprietor. The receiver in this gauge rests upon a platform balance, and when rain falls its weight causes the balance to record the amount and time of the rain upon a revolving drum. To adapt it to snow another and deeper receiver is used with a shield within to prevent clogging by sleet.

The collecting mechanism of the Draper self-recording rain and snow gauge in use at the Central Park (New York) Observatory consists of the usual Smithsonian circular receiver, 8 inches in diameter and funnel-shaped at the bottom. A brass gravity bucket of a triangular prismatic shape

receives the water collected by the gauge and actuates the recording pen. The funnel-shaped receiver is artificially warmed so that snow or sleet is melted as fast as collected. A full description of Dr. Draper's gauge may be found in any of his published reports.

The Eccard self-recording rain and snow gauge, from which the record for Washington is taken, is figured and described on page 32, Report of Chief of Weather Bureau, 1891-'92. It consists essentially of a receiver 12 inches in diameter with an enlarged bowl underneath, a measuring cylinder containing a float, the motion of which is communicated to a recording pencil which traces the record on a revolving drum. The bowl of this gauge is also artificially warmed in order to melt snow and sleet. For light snows and light drizzling rains, gauges of this type, that is, in which the receiver is artificially warmed, are objectionable on account of the great tendency of the rain or snow to evaporate before it reaches the recording vessel.

The hourly amounts of precipitation at Blue Hill, as published in the annual volumes, have had a correction applied to them to reduce them to standard gauge measurements. No such correction has been applied to the Washington records, nor, so far as known, to the Central Park records.

The data obtained by these instruments are of two kinds, viz, the number of times of rain in each hour and the amount of rain for each hour. These are given separately in Table IV. An inspection of the numbers of the table show that irregularities still exist. The seasonal means for all have, therefore, been combined in order to find what suggestion of distribution through the hours exists in the results. In order to give due weight to the number of years of observations the longest series (twenty-three years) was multiplied by three, the next (sixteen years) by two, the last by one, and the sums were divided by six.

The results for frequency are expressed as the number of times per month on which rain would fall in that hour. Inspecting the combined results we find that in winter precipitation is most frequent in the forenoon, in summer in the afternoon or evening. In both spring and summer there is a minimum of rainfall about noon and midnight. It is especially marked in summer, and occurs in the hour ending at noon. In spring and autumn the rain is most frequent in the hours between midnight and sunrise.

The quantity part of the table gives, in fractions of an inch, the average amount which falls at each hour of the day. The table of combined results shows that these quantities run with fair uniformity through the hours with only two noteworthy exceptions. In summer the quantities in the afternoon and evening hours (from 3 p. m. to 10 p. m.) are about twice what they are in the other hours. This maximum of amounts corresponds with the maximum of times in this season. In winter there is also a maximum at about noon, a little belated on the time of maximum frequency. It is noteworthy that the minimum of amounts at the noon hours is not so well marked as the minimum of frequency (in spring and summer), showing that when it does rain at these hours, it is likely to rain harder.

If the amounts in the table are divided by the corresponding frequencies, we obtain what is called the density for each hour. The series of observations is hardly long enough to make these results instructive.

II.—RELATIVE AMOUNTS OF PRECIPITATION.

In the discussion of the relative amounts of precipitation care has been taken to reduce them to equal months so that they will be strictly comparable. This was done by adding the necessary proportions to February and by subtracting the necessary proportion from the longest months. The results are given in Table V by percentages, so that a comparison can be made with ease.

10. Curves.—The curves for the various months show that certain types of the distribution of the rainfall during the year prevail in certain parts of the United States. These may be reduced to three distinct forms, with very many intermediate forms. Of these the first form is that of New York, N. Y., where the rainfall is 45.2 inches (see Fig. 1). There is here a slight maximum in Jan-

uary and in March, and a well-marked maximum in August. The best marked minimum occurs in May, and a secondary minimum in December. There is here comparatively little variation during the different months, the lowest minimum being $6\frac{1}{2}$ per cent of the total rainfall (May), and the greatest maximum being $10\frac{1}{2}$ per cent of the total rainfall (August).

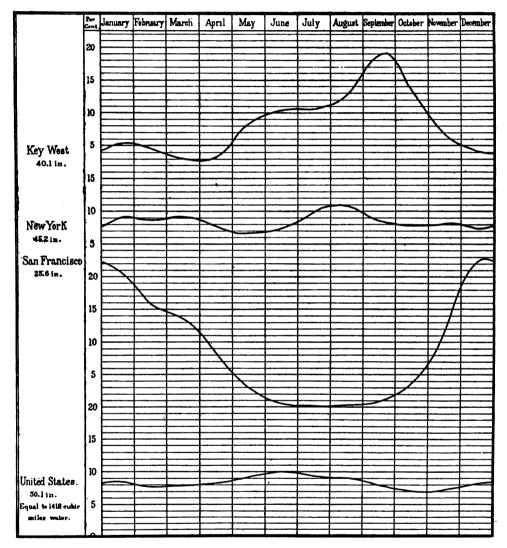


Fig. 1.

The second type is to be found at Key West, Fla., and this is distinctly a type of tropical rainfall. The principal maximum occurs in September, in which month 19 per cent of the rainfall for the year descends. A second maximum, much less in magnitude, can be found in January, when 5 per cent of the total annual rainfall descends. The principal minimum is in the latter part of March and the beginning of April, when the rainfall descends to only 3 per cent. The second minimum is in December, when the rainfall descends to 4 per cent.

The third well-marked type is illustrated by the rainfall at San Francisco, Cal., where the total for the year is 23.6 inches. There is here one maximum and one minimum only, the former occurring in December, the latter in July and August. In December the maximum is 22 per cent, that per

cent of the rainfall descending in a single month. In the dry season, in July and August, the rainfall is reduced to practically zero. For the United States, as a whole, the curve shows great uniformity for the different months, varying only between 7 per cent for the lowest minimum and 10 per cent for the highest maximum. The maximum falls in June, the minimum in October. The uniformity of the distribution of rainfall through the months is striking.

11. Maximum monthly rainfall.—It is of special interest to see in what way the rainfall is distributed geographically over the United States with reference to the seasons. A study has therefore been made of the regions over which there is a maximum rainfall for each month of the year. These regions are ill-defined at their margins, one type of distribution passing gradually into another. Moreover, in most stations there is more than one maximum of rainfall during the year. To represent the maximum, a line is drawn centrally through the area in which a maximum rainfall occurs for any month (see Sheet xix). The proper way to read the maps is to consider the maximum as best marked along the line there given, and to gradually fade away as the distance from this line is increased. Where two lines cross each other in successive months, as in May and June, on the first two maps, it simply means that the maximum of rainfall in question comes near the end of May or early in June. Where lines cross the same place for months separated by intervals, it means that there are two or more maxima of rainfall for that particular place.

Taking now these regions by the month, we find on the first map a maximum of rainfall in March, extending along the Atlantic and Gulf coasts from New England to Texas, and also extending down into the Peninsula of Florida. It spreads well into the interior and covers the region in the vicinity of the lower Lakes. In April it has passed westward and occupies but a little territory in Arkansas and Louisiana. By May this maximum has passed farther westward and occupies the central plains, the crest running in a curve from the vicinity of Davenport, Iowa, around through the extreme north of Texas, and northward in the vicinity of Cheyenne, Wyo.

These rainfalls are well distributed for greatest usefulness to crops. Rains, other things being equal, are the most useful in the spring. Whether, however, they are actually of the greatest use to the crops depends among other things on the character of the rainfall, a point to be discussed hereafter. If the rain comes gently and is distributed throughout the days this rainfall may be beneficial. If it comes in sudden heavy showers which wash away the soil and wash the seed out of the ground, it is injurious.

The regions of summer rainfall are especially interesting. There is an enormous territory in the United States over which a maximum rainfall occurs in June. The line which represents the crest of this wave begins in western Washington and extends to the southern part of the Peninsula of Florida. There is also a distinct extension of this area eastward in the vicinity of the upper Lakes. This area of higher rainfall extends from this line both toward the east and toward the west in July, occupying the remainder of the territory of the United States east of the Mississippi River, and also a territory in the southwestern plains, through Colorado, New Mexico, and Arizona. It has extended still farther from the main axis in June. It is found then along the Atlantic coast, also along a part of the Gulf coast. It is also found in the western region before mentioned, only somewhat farther south, occupying northern Texas, New Mexico, and Arizona.

The regions of maximum rainfall in autumn are not of so much interest, except in the extreme southeast, where there is a marked maximum about the Peninsula of Florida in September. In September also there is a secondary maximum in the region of the upper Lakes, a part of the upper Mississippi Valley, and along the Texan Gulf coast from Galveston westward. In October the maximum on the upper Lakes has extended to the lower, and in November this maximum has extended to the coast of New England, and to an area through the central States, reaching from Ohio to Texas.

The regions of maximum rainfall in winter are most interesting on the Pacific coast. Here the maximum rainfall occurs in December, and this area of maximum occupies not only the entire

coast, but a region in the interior which generally extends to the Great Divide. Toward the south there is a secondary maximum in February, which is the only maximum in the eastern part of this area, and in New Mexico. In January there is a region of maximum precipitation extending from southern Iowa to Lake Huron, and another much more extensive region extending along the Atlantic and Gulf coast to the Peninsula of Florida. These two waves of higher rainfall for January meet in February along a line which lies approximately half way between them.

The most interesting of the regions of monthly maximum rainfall for the United States are those of June, extending over a large number of States; those in September which are so well marked in Florida, and those in December and February which are so well marked on the Pacific coast and in the southwestern area. The other maxima which have been mentioned are generally of a secondary character, but when they occur in critical seasons their very existence is a matter of interest and importance.

12. Rainy seasons.—(Sheet xxi.) The occurrence of these maxima at the different seasons of the year suggests a more detailed study of well-marked rainy seasons throughout the United States. The first one to be taken up is one to which attention apparently has not been previously called, namely, a rainfall season in May, June, and July, which has its maximum in the vicinity of Fort Buford, N. Dak., near the boundary line between the Dominion and the United States, and on the great plains. During May, June, and July, fully 50 per cent of the rainfall of the entire year descends in that particular area. This is a good season for heavy rainfall in these latitudes for agricultural operations, and we have here, therefore, a feature which commends the northern plains. A line has also been drawn to show the area in which 45 per cent of the entire rainfall of the year descends in the same months. It includes a much more extensive area, embracing South Dakota. the most of North Dakota, Nebraska, and a large part of Kansas and Montana. Over this area it seems that 45 per cent, or more, of the annual rainfall descends in the late spring and early summer months. The line inclosing the area where over 40 per cent of the rain falls in these three months is still more extensive, its extension eastward being especially marked. The line including the area where over 30 per cent of the rain falls in these three months covers nearly all of the northern and central parts of the western plains, and extends well into the upper Lake region, reaching as far eastward even as Pittsburg, in Pennsylvania.

The next distinct rainy season in the year is almost as little known as the one which has been already noted. It occurs in July and August and occupies a considerable part of Arizona, New Mexico, and some of western Texas. Its center in the United States is at El Paso, Tex., where 40 per cent of the rainfall of the year descends in these two months. The area over which 35 per cent, or more, falls includes the largest part of New Mexico and a considerable part of Arizona. That over which 30 per cent, or more, falls includes all of New Mexico, the most of Arizona, and the western angle of Texas. This rainfall season has been from time to time referred to, but its outlines have, it is believed, never before been distinctly marked out.

The next rainy season of sharply defined character in the United States is in the months of July, August, and September, and occupies the extreme southeast of the United States, culminating in the vicinity of Punta Rassa, in southern Florida. At this point more than 50 per cent of the rain for the year falls in these three months. Along the west coast of Florida generally, including the entire Peninsula of Florida, as well as southeastern Georgia, more than 35 per cent falls during these three months. The line inclosing the area for 30 per cent of the rainfall starts in at Pensacola on the Gulf, and passes northeastward, disappearing on the coast just south of Cape Hatteras. In this area the time of maxima varies somewhat with the place, points not far distant from each other having maxima in different months. For instance, at Titusville, Fla., the maximum occurs a little before the time of the rainy season above, namely, in June. This is the only station at which this occurs. At Jupiter, Fla., farther south, the maximum occurs in September; at Punta Rassa, Fla., it occurs in July; at Pensacola, Fla., in August.

The last rainy season of well-marked character that we find in the United States is that on the Pacific coast, for the months of December, January, and February. It culminates at Los Angeles, Cal., in February, with over 60 per cent of the rainfall confined to these three months. The line for 50 per cent, or more, enters the coast in about the middle of Oregon, then descends southward and a little eastward, leaving the boundary of the United States just to the east of Yuma, Ariz. The line for 30 per cent, or more, enters the northern boundary in western Montana and descends nearly southward, leaving the southern boundary not far east of the line previously mentioned. In this area the maximum usually occurs in December, but at some stations in the extreme south it is shifted to February.

13. Minimum monthly rainfall.—(Sheet xxi.) In the same way that the maximum rainfalls of the United States were considered we can consider the minima. Beginning with the spring minima we find that in March there is only one — on the lower part of the Peninsula of Florida. By April the area of minimum rainfall occupies the coast from Norfolk southward, and also the interior from Eastport, Me., to Little Rock, Ark. By May it has drifted on until it occupies the coast from Massachusetts to Norfolk, Va., and along the Gulf coast to New Orleans, La., and northward to Arkansas and Tennessee. The summer minima are found in June along the New England coast to Long Island. In July they are found in a larger area, extending over the Lower Peninsula of Michigan to central Texas. In August there is a series of minima along the Lakes, from Rochester to Cleveland, and an extensive area of minimum rainfall over the Western States, along the Pacific coast, and in the interior of Idaho. There is also in August an area of minimum through central Illinois. In September the minimum area extends from Rochester, N. Y., to Cairo, Ill., and from Portland, Me., to Long Island. In October the New England series of minima has passed southward and is now found in southern New York, eastern Pennsylvania, New Jersey, and Maryland. It is also found over the Southwestern States from Missouri southward, and from Georgia westward to Illinois, in the lower Mississippi Valley. In November the minima extend along the Atlantic coast from Delaware to Florida and cover a large area in the Northwest, from the Cascade Range eastward to the Missouri River, and southward to the northern boundary of New Mexico and Arizona. The winter series of minima is somewhat more complicated. The December series occupies the southern part of the Peninsula of Florida, the same area as the preceding series in New England, from Portland, Me., to New York, and also a band extending from Lake Ontario southwestward to northern Louisiana. In January this latter series has drifted westward, and is found best marked in a band extending from Saginaw Bay westward to San Diego, Cal., and extending northward from this line over Minnesota and the Dakotas. In February the minima occupy the whole eastern coast and the area of the lower Lakes. They are also found on the northern plains east of the Continental Divide, extending as far eastward as Minnesota and as far southward as Nebraska and northern Colorado. It is a noteworthy fact that the minimum rainfall area is more extensive in the winter than at any other season of the year.

14. Probability of rain.—By this is meant the probability that it will rain on any given day. The probability may be expressed in tenths. Thus, if the probability is 7, then the meaning is that there are 7 chances in 10, as shown by previous observations, that rain will fall on that day. It may also be expressed in hundredths (as is done on the maps herewith), in which case 70 would mean 70 chances in 100, or 7 in 10, as above.

A series of twelve folio charts giving the probability of rain for the United States was published in 1891 by the Signal Service, and later data would not materially change the results. Here will be given only the annual chart, somewhat generalized in order to make the map easily comprehensible, and maps of greatest and least probabilities for the year. The data used are those of columns 3 of Table V.

The probability of rain for any day in the year is given on Map 5 of Sheet xxii herewith. From this it appears that the probability of rain on any day of the year is greatest over the lower Lakes,

and decreases from there southwest to southwestern Arizona. In the first region it is a chance of 50 in 100, or 1 in 2, that it rains on any day of the year taken at random. In the southwest it is only 10 in 100, or 1 in 10. The probability on the great plains is two or three times as great, and at the mouth of the Mississippi four times as great as near Yuma, Ariz.

The greatest probability of rain is given on Map 6 with the month or season in which it occurs, and the probability. For about half of the United States (excluding Alaska) it is in winter; over about one-third in May or June; and over the most of the remainder from July to September.

Map 7 in a similar manner gives the least probability of rain, with the months. It passes through all the seasons, but the area of least probability in autumn is the most extensive of all, extending from Montana to Georgia and from Texas to Connecticut. The next is the summer area of the Pacific coast, where the probability of rain is from 0 to 20 only.

15. Character of rainfall.—It is a matter of interest to ascertain whether the rainfall at any particular place is due largely to small rains, or to great ones. If the former is the case it will generally be favorable to agricultural operations and not damaging to structures. If the latter is the case it is liable to be unfavorable to agricultural operations and otherwise damaging. In order to ascertain the character of the rainfall columns 6 to 13 of Table V have been prepared, giving the percentage of days on which there was no rainfall, those on which the rainfall was between a trace and 0.25 of an inch, 0.25 and 0.50 of an inch, 0.50 to 1 inch, 1 to 2 inches, 2 to 3 inches, 3 to 5 inches, and over 5 inches. These are all expressed in percentages of days on which such rain fell, and the months have been equalized so that the percentages show the relative times of rainfall, and also, with proper treatment, the relative quanity of rainfall of each kind. Examining this series we find four very distinct types. The types as described are not the extreme cases, but are those which are obtained by taking a number of the most marked cases (from 5 to 20, depending upon the extent of area covered by the type) and deducing the mean values from the table.

As in the case of hourly rainfalls, there are here two distinct features of interest to be considered, viz, the frequencies of these different rains and their quantities. The first should be an answer to the question: On how many days do the light rains, the medium rains, the heavy rains, etc., fall? The second should answer the question: How much of the total rainfall comes down in the light rains, the medium rains, the heavy rains, etc.?

Examining Table V, with reference to the first question, we find four distinct types of rainfall—as to the relative frequency of light and heavy rains.

The first type is that which is found on the lower Lakes, and which has its extreme at Oswego, in New York. Its especial characteristic is the relatively large number of days on which small rains fell. This number of days is often greater than those on which no rain fell. This is particularly the case with these rains in the winter, but it may extend in some cases through the year, and at Oswego it is found that this maximum appears clearly in the annual rainfall curve.

The second type is best illustrated in the extreme northwest, but it is more or less clearly seen over our northern latitudes generally, except on the great plains, where the rainfall gradually passes into the fourth type. In the Northeast there is a combination of type two with type one, the traces of the latter decreasing as the distance from the lower Lakes is increased. Type one is that of smallest rainfalls, type two of small rainfalls.

The third type belongs to the Southeast and is best marked at New Orleans, La. It is marked by a greater number of medium rainfalls, due to the fact that the rains in our southern latitudes are largely local rains—thunderstorms, showers, etc. The rain of our northern latitudes comes usually in connection with general storms; the rain of the southern latitudes with local storms. Medium rains of short duration are, therefore, more frequent in the Southern States.

The fourth type is that of little rain. It is found in the drier regions of the United States, and is best marked at Yuma, Ariz. There is little rain of any sort and this usually comes with small showers, but cloudbursts occasionally occur. The rains of this type are generally local.

The fourth type gives the least rainfall and the third the most. Less rain comes down in every type for moderate showers (0.75 inch) than for heavier or lighter rains, but this difference is most marked in the third type. The first type gets much more rain for very slight than for any other depth of rainfall, and this is also the case for the fourth type. The most of the rain descends in falls of less than 1 inch per day in the fourth type.

It would be interesting to decide how much rainfall in a single day is damaging and how much rainfall in a single day is beneficial. Undoubtedly the small rains, generally speaking, are beneficial, and the heavy rains damaging. Where the line should be drawn between these two would depend upon the character of the crops and on the season in which it fell, and on the character of the soil, whether easily washed off or held firmly in position and not yielding to wash; and on other things which could be easily stated.

III.—SPECIAL FEATURES OF RAINFALLS.

16. Heaviest rainfalls.—A matter of interest, from agricultural and engineering points of view, is the occurrence of very heavy rainfalls, whether for a single day or for several successive days, and even for the month or for the year. These have been compiled and are presented in Table VI. To the question of the heaviest rainfall for one day during the year a little special study has been given in order to see its distribution. The heaviest rainfall recorded for a single day in the year was in the month of May at Boise City, Idaho. This was due to a local cloudburst, and doubtless there may be similar heavy rainfalls at remote and uninhabited places in the arid region or its vicinity which have not met with the proper record. It is to such cloudbursts that is due the sudden rise of the streams in the drier areas of the United States. Under such circumstances a stream bed, usually empty, is very rapidly filled, and the water is seen coming down from the slopes in the form of a wall which may be several feet high. This would occur, naturally, most often in the areas where the run-off has the largest percentage to the total rainfall. Leaving out these cases, which can not be studied because of the lack of data, and turning to the question of the more general heavy rainfalls, we find a marked and interesting distribution. While these rainfalls are generally unlooked-for storms, and sometimes partake of the nature of cloudbursts, yet they show a certain distribution with reference to latitude in the vicinity of the coast, which indicates that they are very often, at least, parts of generally heavy rains where the rainfall is particularly great. On Map 8, Sheet xxii, on which these have been platted for the entire year, we find that the area of heaviest rainfall in one day is about Pensacola, Fla., where over 10 inches have fallen in a single day; and about New London, Conn., where 11.8 inches descended in the same time. These are both coast stations. The line for 7.5 inches skirts the coast from Cape Cod, Mass., to Charleston, S. C., when it passes inland, reappearing on the Gulf coast beyond Galveston, Tex. Practically, therefore, the area in which a rainfall of 7.5 inches in a day is liable to occur is along the coast from Cape Cod, Mass., to Texas, and over the southern half of Georgia, Alabama, the most of Mississippi, but not including the Peninsula of Florida. At Jupiter, Fla., the heaviest rainfall so far recorded in a single day is only 4.3 inches.

The area over which the rainfall is not greater than 2.5 inches in a single day is, according to the observations in hand, along the Continental Divide, inclosing the Great Basin and northern Idaho, as well as some parts of New Mexico. It is divided in part by a strip of higher rainfall extending from Tucson and Prescott, in Arizona, northward to Denver, Colo. The line for 5 inches on the Pacific coast includes only an area in northern California, northern Nevada, southeastern Oregon, and southwestern Idaho, and in these places the rainfall is not much above 5 inches, except at Boise City, Idaho, which has already been mentioned.

It appears that extremely heavy rainfalls are by no means matters of a large annual rainfall. In the region of largest annual rainfall in the United States, in the extreme northwest, these heaviest daily rainfalls are unknown, as well as in the region of next highest annual rainfall,

namely, southern Florida. They occur along the coast warmed by the Gulf Stream, but do not occur on the Pacific coast. The eastern part of the plains shows a tendency toward such rainfalls, but the whole of the region of the Continental Divide, with the plains immediately east and west, is not subject to them.

17. Consecutive days with and without rain.—It is a matter of considerable interest to ascertain how many days may pass in the extreme with, or without, rain in any part of the United States. The data which are tabulated and mapped are for the year, and include for the most part only the time during which observations have been taken by the meteorological service of the United States, namely, about twenty years. Undoubtedly, with a longer series of observations, the numbers given on these maps and in the tables could be somewhat increased; but with twenty years' observations behind us some general conclusions of enough interest to justify them can be drawn.

In the first place, what is the greatest number of consecutive days with rain in the whole year which have occurred within the last twenty years? Reducing them to a map (No. 9 of Sheet xxii) we find they take on a systematic form, a form which is quite as regular as could be expected from the limited number of years of observation. There are two areas in the United States where 30, or more, days of rainfall have occurred in succession. One of them is in western Oregon, the other around Oswego, in New York. The one is close to the area of greatest rainfall in the United States, and the other is the center for the peculiar type of rainfall already referred to, where small rains continue so persistently throughout the entire year. There are two areas of minima of consecutive days with rain, the one a small one in the north, just south of Manitoba; the other a large one, including in a general way the arid area of the United States and some of the outlying regions. It lies in two distinct parts, and is the area to which the physician should send his patient if it is required that the patient should be where there is as little consecutive rain as possible. There is a larger area in central United States, inclosing almost the whole of the Mississippi Valley, with the Missouri, and also the Southern States generally, except Texas, where the number of consecutive days of rain is between 10 and 20.

It is interesting to note the influence of the lower Lakes on the number of consecutive days of rain. Twenty days, or over, have occurred from Lake Huron eastward, and the number of consecutive days is the greater, generally speaking, if the station is to the leeward of these great bodies of fresh water. In this case, too, the Alleghenies play some part, so that the eastern boundary for 20 consecutive days of rainfall, or more, extends from the west side of Lake Huron down to Charlotte, in North Carolina; thence northward and eastward along the crest of the Alleghenies.

Thus far the discussion has been on the number of consecutive days with rain. We come now to the number of consecutive days without rain, and here we find much more variation on the map. (See Map 10, Sheet xxii.) The greatest number of consecutive days without rain in the stations examined has been 167, and the station is Yuma, Ariz. The next one in order is Sacramento, Cal., where 160 days have passed without rain. At San Francisco, Cal., 142 days; at Los Angeles, Cal., 120; at San Diego, Cal., 136; and at Fort Wingate, in northwestern New Mexico, 124. These numbers are far larger than those which are found anywhere else on the map. In general, we may say that in the extreme southwest, from central California and Yuma, Ariz., to northwestern New Mexico, there is a region where 100, or even 150 days, may pass entirely without rain. The number of consecutive days without rain decreases from here in a northeastward direction. The line for one month, or 30 days, without rain is interesting from its association with the calendar month. It begins in the vicinity of Puget Sound, in the Northwest, extends down to the south ward of Spokane, Wash.; thence eastward to the north of Bismarck, N. Dak., on the upper Misssouri River; thence southward and a little to the eastward, terminating in the Gulf just east of Galveston, Tex. To the westward of this line we have more than 30 days without rain. To the eastward less than 30 days have occurred without rain in the years of observations so far, except in the Southeast and a little area in and adjoining southern New Jersey. In these two areas 30 days, or more, have passed without rain. At Key

West, Fla., 39 days have passed without rain; at Jacksonville, Fla., 34; at Titusville, Fla., only 27.

The area with the smallest number of days without rain incloses the lower Lakes, Ohio, West Virginia, and parts of the neighboring States. The minimum of 15 days is at Rochester, N. Y. At Toledo and Cleveland, Ohio, and Oswego, N. Y., 18 days is the greatest number. This area also extends to the eastward, and at Eastport, Me., 14 days only, or a fortnight, is the longest number of consecutive days which have passed without rain.

If the physician wishes to send his patient where precipitation is most frequent it should be to the eastward of the lower Lakes, or to northern New England. If he wishes to send him for any reason to regions where rain is infrequent and where anywhere from three to five months may elapse without rain, then the patient should go to the southwestern part of the United States.

18. Thunderstorms.—The compilation of thunderstorms is from 1884 to 1892. In the early years of the Signal Service observers generally made but a single note of the occurrence of a thunderstorm without giving any of the details of the storm itself or of the attendant phenomena. In the spring of 1884 a general order was issued directing that a record be made of the time of beginning and ending; temperature and direction of wind both before and after the storm; hailfall, time of beginning and ending, and size of hailstones. Storms which passed near the station, and yet from which no rain fell, were to be included, provided thunder could be distinctly heard. From this date the record of thunderstorms was kept uniformly at all stations, and there was a report made at the end of the month which embodied the chief characteristics of each storm. The time of occurrence was given on local meridian time up to January, 1885, and after that on seventy-fifth meridian time. While this change does not seriously affect the record in the eastern part of the country, it introduces an element of uncertainty in the data for the central and western portions, though no greater, it is thought, than that due to a lack of observations during the night hours. The opportunity of observing thunderstorms during the earlier years continued up to and sometimes after midnight. All storms recorded as beginning and ending during the night were classed as beginning between midnight and 6 a.m. Thunderstorms occurring at intervals were recorded as two storms, but when they followed each other closely but one storm was recorded.

Map 1 on Sheet xxiii gives the average annual number of storms from 1884 to 1892. Constructing the lines of annual number of thunderstorms, we find that the region of greatest number is in the southeastern part of the United States. The line for 40 per year passes through southern Georgia, southern Alabama, and southeastern Mississippi. The number decreases northeastward, and the area in which less than 10 thunderstorms occur each year is confined to the coast of New England. The thunderstorms on the Pacific coast are not taken into consideration.

The seasons in which occur a maximum number of thunderstorms are of some special interest, and the results are shown on Map 2 of Sheet xxiii. It appears that from May to June the maximum is in the northeastern and central States, especially in a region extending along the Mississippi Valley from Keokuk, Iowa, to Cairo, Ill. Parallel to the line of maximum for May and June comes the maximum for July, extending in a band from northern Montana to central Texas; thence to Georgia, and thence northeastward to southern Maine. There is also a small area in which the maximum is from June to July about Lake Huron. The maximum for a month later, August, occurs in the vicinity of Salt Lake, Utah, and along the Gulf and Atlantic coasts. On the southern part of the Peninsula of Florida the maximum occurs in August and September. It appears, therefore, that the maximum of thunderstorms comes earliest to the west and southwest of the Great Lakes, and gradually extends, as time passes, to the outlying regions to the west, to the south, and to the east.

A matter of especial interest is the occurrence of winter thunderstorms. They are in some respects a different type of storm. Plotting them we find that the area of maximum frequency is in Louisiana and vicinity (Map 3 of Sheet xxiii), where the number occurring per year varies from

10 to 16 per cent of all. The line of 5 per cent of all thunderstorms is parallel to this and covers an area somewhat more extensive. There are also two or three points along the Atlantic coast where more than 5 per cent of the storms occur in winter, namely, Block Island and Cape Hatteras. Above a line which extends nearly parallel to the forty-fifth degree of latitude and somewhat south, as far west as the central plains, from which point it strikes northward, there are, practically, no thunderstorms that occur in winter.

In the central and eastern United States the thunderstorms come generally from the west. There are, however, some exceptions to this, and these have been entered on Map 4 of Sheet xxiii, For the most of these exceptions the direction of approach is southwest; but in a few cases still other directions are taken. The most interesting is Key West, Fla., where the direction of approach is from the east. Another is Galveston, Tex., where the approach is either from the northeast, from the north, or from the southwest. At Santa Fe, N. Mex., they approach from three different average directions. Galveston, Tex., is the only place where thunderstorms come on regularly from the north; but there are quite a number of stations where they may come from the northwest.

Observations of thunderstorms have been taken on Mount Washington, N. H., for three months in the year, July, August, and September. The number includes both those that extended to the summit and those which were below, and averaged 3½ per year for July, 2½ per year for August, and less than 1 for September. These thunderstorms come on from the west and southwest. The largest number for these months is 10 in 1885 and 1892; and the smallest number 4 in 1888, 1889, and 1891. The number in July is much larger than in the two following months.

Table I.—Annual precipitation in the United States (1788 to 1891).

Station.	Lat. N.	Long. W.	Elevation	1738	1739	1740	1741	1742	1743	1744	1745	1746	1747	1748	1749	1750	1751	1752	1753	1754	1755	1756	1757	1758	17:
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				1760	1761	1762	1763	1764	1765	1766	1767	1768	1769	1770	1771	1772	1773	1774	1776	1795	1796	1797	1798	1799	184
ambridge, Mass 'illiamsburg, Va radford, Mass	37 15	71 07 76 40	40 100	39.0	31.8	24.5	39.7	36.9	32.6	37.7	42.3	36.7	31.4	41.3	45-3	48.9 36.3	32.6	37.3	147-04						
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 _		Lat. N.	W		Elevation.	1818	1819	1820	Pentad mean.	1821	1822	1823	1824	1825	Pentad mean.	1826	1827	1828	1829	1830	Pentad mean.	' 1831	1832	1833	! 18
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nbridge, N. Y		42 56 43 01 42 55	70	23 28	1, 300 500 650											!	39. I 51. 9 31. 0	33.6 43.6 34.7	27·3 38·9 30·6	30.0 35·3 37·9		42.8	26.5 46.5 31.0	30. 2 47.4 33.7	
nton, N. Y orry Valley, N. Y		40 57 42 48	72 74	47	16							<u>'</u>		• • • • • • • • • • • • •			47.0 54.1	31.0 34.6	42.6 44.5	46.6 45.1			41.8	30.4 44.1	
nilton, N. Ý vville, N. Y tson N. V		42 49 43 47 42 15	75	34	800				•••••	• • • • • •						•••••	43·5 32·8	34·2 35·3 44·1		42.8 36.7	• • • • • •	33.3 38.9 44.7	35-1 29-0 45-7		
dson, N. Y rfield, N. Y t Hampton, N. Y	!	43 °5 40 58	. 74 . 72	45 55	1, 185				• • • • • • • • •	•••••			• • • • • •			• • • • • •	•••••	45.6	42.6	46.6			32.3 41.8		
nca, N. Yntgomery, N. Ylington, Vt			, 76 74	30	300		'	. '									!	40.5	31.4		•••••	44-5	40.6		• •
wiam. N. Y		44 28 43 00 44 41	74	12 23 57	688 :			!				'				'		40.5	36.5	• • • • • •	• • • • • • • • •		32.6	49·4 ' 39·4	
ttaburg, N. Y n Yan, N. Y ord, N. Y		42 34 42 42	77 77	20 04	1,494 740		•••••	• • • • • • •					• • • • • •						26.2 32.3	36·2 30·2	• • • • • • • • • • • • • • • • • • •	30.0	30.9	26. o	
graton. N. Y		42 28 41 55	74	32 02	961 188 260	•••••	;	· · · · · · · · ·	••••• _,							• • • • • • • •	•••••	•••••	39.0	33.7 40.2 41.6	;	45.5	30.9 38.4	32.7 44.0 37.6	3
enovia, N. Ywburg, N. Ytsmouth, Ohio		42 55 41 31 38 42	74	46 00 53	150 537		·····	• • • • • • • • • • • • • • • • • • •							•••••	· · · · · · · ·	•••••	•••••		34.8		42.3	43·3 45·4	36.7	1
tsmouth, Ohio chester, N. Y donia, N. Y rth Salem, N. Y		43 07 42 26	77	51 24	506			•••••												34 I 33·9		36.9	41.0		
ubenville, N. Y ntaville, N. Y		41 20 40 25 34 43	1 8ŏ	34 41 40	361 670		•••••	· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·								•••••		•••••	43.3	• • • • • •	43.5	40-9 39-9 46-4	43·3 35·6	1 3
ntsville, N. Y ntsville, Ala wiston, N. Y ffalo, N. Y		43 09 42 53	79 78	10 53	280 690		· · · · · · · ·	· · · · · · · · · · · · · · · · · · ·	: : : : : ;	•••••	!	,					•••••	•••••	•••••	•••••	• • • • • • •	25.2	21.4	20.9	
uverneur, N. Y y West, Fla		44 25	1 75	35 49	400										1	- 1								24.0	2

TABLE I.—Annual precipitation—Continued.

						BI.E 1.	41.0		p. a.	pular		Contil											
Station.	Lat. N.	Long. W.	Elevation.	1835	Pentad mean.	1836	1837	1838	, 1839	1840	Pentad mesn.	1841	1842	1843	1844	1845	Pentad mean.	1 846	1847	1848	1849	1850	Pentad mean.
Dhiladalphia Da	0 /	0 /	Feet.										.0					i					
Philadelphia, Pa Natchez, Miss	31 34	75 09 91 27	117 264	39-3	41.0	42.7	39-2	45.4	43.6	47·3 48·5	43.6	55·5 59·6	48-7	46.8 78.8	40.2 45.8	40. I 53. 0	46.3 56.1	44·2 61·6	45·3 75·3	34.9	42.1	54.0	44-3
Brunswick, Me New Bedford, Mass		69 57 70 56	74 100	42.0	42.6	38.2	34.8	24.2	54 · I		38.2	•	54.9	67.0	50.3	75.8	59.2 40.8	43.5	61.3	59.3	39.2	57.4	52. I
Baltimore, Md	41 39 39 18	76 37	45		, 43·6 ,	39.3		34 - 2	39.4	44.2			35.0	45.0	36.1	42.9		30.8 61.9	41.0 45.5	36.2 37.9	32.0 35.4	50.3	46.2
Marietta, Ohio Boston, Mass	39 28 42 21	8126 7104	580 18	42·5	43·9 42·7	36.8 40.6	43·7 33·7	35·4 42·7		38.9 49.2	37.6	42·9 47·2	42.0 39.0	41.7	36.7 37.5	33·9 46·1	39·4 43·3	46.2 29.9	52.4 46.8	43.2 41.0	42.9	52.2 54.0	47-4
Washington, D. C	38 54	77 02	75		• • • • • •		· • • • • •	- • • • • •	38-5	• • • • • •	· • • • • •	45. I	• • • • • •		• • • • •	• • • • •	• • • • • •	41.8	35.7	23. I		,	
Morrisville, Pa	40 13 42 25	74 52 71 16	30 180	40-0 39-4	41.0	35.2	37 · I 38 · o	44. I 40. 9	39.0	47-7 42-1	43.3	57·0 41·7	34·4 38·3	46·5 44·3	38.9	39·7 43·0	43·3 40·7	44·3 30·0	44.0	36⋅3	40.8	52.0 62.1	42.6
Middlebury, N. Y	42 49	78 10	800	34.2	30.5	• • • • • •				32.3		31.4	28.0	32.8	30.9	25.3	29.7			25-7			•••••
Flatbush, N. Y Onondaga, N. Y	40 39 42 59	73 56 76 66	1,260	38.0	42. I	44·0 34·4	34·4 32·8	41.0 30.4	42.8 32.3	35·9	39.6	52·1 26·4	47·5 34·5	50·4 34·4	39. t 27. o	32.1	44-2	44. I	45.8	33.4	34.7	51.0	41.8
Lansingburg, N. Y Lowell, Mass	42 47 42 39	73 40	30 226	22.2 32.6	35·2 42·6	33.5	33.5	• • • • • •	18.3 38.3	29.2 38.7		27·9 40·5	29.7 38.7	32.7	24.4	30.8	29. I 38. 7	37.5			•••••		•••••
Jamaica, N. Y	40 41	73 56	30	28.7	35.6	35·5 36·5	30.9 32.1	37·5 33·6	33-4	35.5	36.2 34.2	44.4	41.6	39·4 35·8	35·7 40·0	39. t 33.7	39.1	35.9	46.3	42·4 32·8	41·8 30·2	51·0 44·6	41.9 37.6
Utica, N. Y	43 o6 42 40	75 13	473 195	38.7 40.5	39·7 39·8	33·1 44·6	24 · I 41 · 2	42.0	35.6 38.3	46.0 44.4	42. I	42.8 38.0	56·4 46·0	47·5 48·2	32. I 34. 9	40·5 39·4	43·9 41·3	36.3	31.0	48.2	· · · · · ·	40-3	
Troy, N. Y	42 44	73 41	58	22.2	35.2	33.5	33.5	30.9	18.3	29.2	29. I	27.9	29.7	32.7	24.4	30.8	29.1	39·7 37·5	41.4 35.5	38.7	36.7 33.9	40.9	43.6 37.3
Pompey, N. Y	42 56 43 OI	76 05	I, 300 500	33.3	40-4	23·3 34·2	30. 3 31. 6	23.4 44.3	25·5 40·3	32.7	27.0	25.3	29.7	31.5	•••••			•••••	•••••	•••••	•••••	45-2	,
Cambridge, N. Y		73 23 76 28	650	34.3	••••	31.3	29. I	21.8	33.6	37 · 4	30.6	28.3	40.8	49-7	39-9	34 5	35-6	33.2	39-9	38-7	40.8		
Cherry Valley, N. Y	40 57 42 48	72 11 74 47	I, 335	30·5 34·9	37 • 4	35.0 38.1	35.2	29.0	46.4	43-3	37.9	43·7 38·0	32·5 40·3	44· I	34 · 3	36-5	39.8	•••••	•••••	•••••	•••••	i	
Hamilton, N. Y	42 49	75 34	1, 127	• • • • • •			•••••	• • • • •					37.3	33.0	25.6	29.5	٠	31.1		30.6	27.2		
Lowville, N. Y	43 47 42 15	75 33 73 45	800 150	39· I	39.6				28.3	40.0		28.7	34·7 35·5	27. I 39.8	26.6 32.4	30.7 26.9	29.6	26·8 25·6	36.4 38.3	29. I 33. 2	29.5	•••••	
Fairfield, N. Y	43 05	. 74 55	1, 185	36.0		34-7	32.5	27.6	30.0	37 - 2	32.4	35-4	51.5	36. I	39.6	40.6	40.6			40.5	37.6		
East Hampton, N. Y	40 58 42 27	72 II 76 30	16 417	30.5	37 · 4	35.6	35·2 28·3	28.0 33.9	46.4 27.3	43.3	37.7	43.7	33.0	29.6 34.2	26. I	31.9		30.7	31.4	28.8	•••••	•••••	•••••
Montgomery, N. Y	41 32	74 13	300	26.3	36.2	29.9	33.5	27.5		36-4		•••••	32.3							•••••		·	
Johnstown, N. Y	44 28 43 00	73 12	346 688	41.1		37 · 3	50.4	30·7 49·6	27.8	37 · 2		32.7	33.8	31.2	31·4 49·9	36. I 36. o	32 · 1 39 · 7	29.7	38-4	31.4	26.2	37.5	32.6
Potsdam, N. Y	44 41	74 57	394	29.7	29.4	19.6	28.7	26.8	22.9	32.5	26. I	20.7	28.6	34. I	31.7	31.0	29.2	25.9	•••••	26.7			
Prattsburg, N. Y Penn Yan, N. Y	42 34 42 42	77 20 77 04	1,494 740	26.8	27.2	27.8	24.5	31.3	31.4	38.9 29.6	28.9	30. 0 24. I	40-5 31-5	35·9 20·3	29. I 20. I	28.6 24.5	32.8 25.9	28.9	27.7	22.8	23.0	31.8	26.8
Oxford, N. Y	42 28	75 32	961	38.7	32.5	41.1	36.6	33. 1	36.7	41.0	37.7	36.4	45.4	41.2	34.8	33.3	38.2		•••••				
Kingston, N. Y	41 55 42 55	74 02 75 46	188 260	33·9 34·3	39∙5 36∙t	37.2	34·2 40·5	37·3 41·2	34·0 36·2	32.7 44.3	35. I	36.8 33.2	37·9 44·2	46. I	39.8	33·5 39·0	40.5	35.4	40·2 35·5	40.8	37.6		
Newburg, N. Y	41 31	74 00	150	25.0		30.2	24.8	48.3	44.5	39 · I	37 - 4	•••••	30.7	33-4	31.9	31.9	•••••	34.7	29.8	34.8	33.8		37.7
Portsmouth, Ohio	38 42 43 97	82 53 77 51	537 506	25.5	35-9	30.6 29.0	47·8 30·6	36.5 25.4	27 · 2 30 · 2	41.6 29.3	36.7 28.9	32.3	33.2	52.9 30.1	35·3 26·1	40. 2 34.4	43·0 31·2	45·2 37·1	49·3 35·8	41.3 32.1	43·3 32·8	58.2 38.7	47·5 35·3
Fredonia, N. Y	42 26	79 24		41.0		36-4	39.8	31.9	30.6	39.8			39.3	30.0	39∙ ≀	32.2		33.3	47.3	37.5	٠	,	
North Salem, N. Y Steubenville, Ohio	41 20 40 25	73 34 80 41	361 670	35.0 38.2	39. I 39. 2	39.2	35.2	30.8 28.2	28.2	37·3	33.7	39.9	45.9	50.2 41.1	34·9 38·7	39·5 38·4	42. I 38. 2		44·7 57·3	35·7 50·3	42.6 47.4	55·5 46·9	44.8
Huntsville, Ala	34 43	86 40	600	60.4	56.2	54.6	47.0	48.4	28.9									••••	• • • • • •			1	
Lewiston, N. Y	43 09 42 53	79 10 78 53	' 280 690	25.8	23.2		20.0		18.0	23.2		19-1	18.4	44.8	34.8			21.4			26.8	28.1	`
Gouverneur, N. Y	44 25	75 35	4Ó0	46· o	•••••			19.8	19.7	•••••		22.8	19.1		25.5			•••••			•••••		
Key West, Fla Hanover, N. H	24 33 43 42	81 49 72 17	10 530	30. I 31. 7	· · · · · ·		38·9 35·4	20·5 40·7	32.0	45.0	38-2	38.1	47.7	55.8	38.3 47.7	38.2	45.5	37 · 4	45.8	48.4	38.5	40.4	42.1
Cincinnati, Ohio	30 06	84 35	628	52.3		57 • 3	42.6	39·6 28·7	30.8 28.0	47.2	43.5	41.1	41.5	51.1	43.0	46.5	44.6	53 · 5	65.3	50.6	52.9	54.7	55-4
Amherst, Mass	43 20 42 22	73 17	250 267	31.0.			38.9	39.9	42.9	30.2 47.0	41.9	23.9 41.6	30.0 38.0	26.0 51.6	30. I 40. 5	40. I 39. 9	30.0 42.3	31.0	43.2 47.9	45·7 41·4	28.7 38.4	55.6	43.6
New York, N. Y	40 43	74 00	159	•••••	· · · · · ·	27.6	65.5	41.8	43.0	29.6	41.5 29.3	42·1	33.9	41.3	36.4	34 · I	37.6	48.9	64.8	37.0	31.8	54.5	47-4
Fort Winnebago, Wis	43 03 43 33	91 14 89 35	695 870				34.0	28.0	31·9 28·9	31.3 27.1	30.0	31. I 28. 4	38·4 24·3	25.5 22.8	39. 2 33. I	25.9				•••••			
Fort Howard, Wis	44 33 42 43	88 og 73 50	620 50	• • • • • •	•••••	37·7 37·2	40.5 31.9	37·6 30·9	31 · 3 29 · 6	30.5 32.3	35·5 32·4	35.8	46.8	41.8	•••••	36.5	•••••	31.6	31.7	39.8	32.7	33.2	
New Orleans, La	2 9 56	90 03	25			52.2			46.4	44.3		50.0	43.5	62.1					53.5	53.6	52.4	51.3	33.0
Fort Jesup, La Fort Constitution, N. H	31 33 43 04	93 3 ² 70 57	80		•••••	49-7	49·6 28·0	47·2 31·8	45·3 27·0	37· I	45.8	55-9	41·9 33·7	52·9 34·2	41·3 31·7	34.9	45.2		•••••	•••••	•••••	50.6	
St. Louis, Mo	38 37	90 12	481		·	,	26.9	31.5	47.5	41.8			32.3	34.9	45.7	38.0	38.7	45-4	52.8	65.4	45.8	50.4	52.0
Fort Monroe, Va Fort McHenry, Md	37 GO 39 16	76 19 76 35	36	,			40.7	44·9	72.0	74 · I 37 · 5		44.1	67 · I	47·3	41.6	47·8 28·4	53·8 37·8	50.6 46.7	48.9 33.1	29.5	32·7 30·8	49.7	42.3
West Point, N. Y. 1	41 24	73 57	167				83.2	83.2	69.5	47.8	•••••	54· o	50.7	50.6	48.2	43.4	49-4	46-5	35· I	50.9	38.3	59.8	46. I
Allegheny Arsenal, Pa Fort Towson, Ind. T	40 40 34 OI	80 00 95 12	300				35·7	34.4	25.8 66.1	28.6 55.7		34·8 63·4	41.7 73.3	38·7 56·0	32·4 46·6	31.8	35·9 55·5	47.8			34.8	37·4 49·7	40. 1
Fort Gibson, Ind. T	35 50	95 20	540				34.6	18-8		55-8	· • • • • •	36.3	29. I	35.6	37 8	26.2	33∙0	33.8	24.3	37.6	52.6	35.2	36.7
Detroit, Mich	46 31 42 20	84 43 83 03	507				37·0 27·2	34.4	23.9			27.3	26.5 31.9	27·2 27·7	34·6 33·1	29.8	28.3						1
Fort Leavenworth, Kans	39 19	94 57	842				38-4	26.3	33-4	32.0		26.0	26.3	15.8	48• I	34.5		23.7					30.5
Hancock Barracks, Me Gardiner, Me	44 14	67 49	76				32.3	30.2	38.8 41.0	41.0			37.6 38.2	41·3 46·4	30.8 38.3	39.3	40.2	35.3	44.9	48.8	39.6	51.6	44-0
Savannah, Ga Mexico, N. Y	32 05	81 05	' 87				35.4			47 · I 19 · 4			63.9	43.7	48.5	37 • 4	52.7	56.7	69.8	56.8	50.4	55· I	57.8
Fort Snelling, Minn	44 53	76 14 93 10	820				24 - 1	27.7	21.2	23.1			36.6 26 .7	35·7 23·8	32·4 30·4	29.6 25.5	32·7 25·6		21.9	23.2	27·3 49·8	25.5	29.3
Fort Smith, Ark	35 23	94 29 81 29	460					27 · 4	42.7				38.8	38.0 28.9	32.9	33.3	39.7 32.4	45-7		44.3		36·8	46.7
Gettysburg, Pa	39 49	77 15	624			ļ:::::::I			37.9	34 • 2		45.5	39·5 36·1	47.5	33.2 31.4	33·2 30·3	38.2			33.5		45.5	42.8
Gettysburg, Pa	36 IO 28 OO	86 47 82 28	553	• • • • • • •	•••••		• • • • • • • • •	• • • • • •	• • • • • •	59.0	• • • • • •	61.7	53·6 45·9	58·2 56·3	42·4 51·7	55∙0 53∙0	54.2	54· I	46. 7	• • • • • • •	• • • • • •	45.0	
Washington, Ark	33 34	93 41	660				.	.		67.5		54 . 5	41.6	63.4	45.5	46.7	50.3	41.4	58⋅3	60·0	70.4	65.7	59-2
Washington, Ark Plattsburg, N. Y Vicksburg, Miss	44 41 32 23	73 26 90 50	186					• • • • • •		35.6		48-5	29·0	41·1 60·3	39·2 37·1	27·7 49·8		52.7				43.9	51.6
Fort Gratiot, Mich	42 59	82 25	598							42.8		32.8	39.6	25.9	33.8	26.7							
Fort Gratiot, Mich Cedar Keys, Fla Charleston, S. C	29 08 32 47.	83 02 79 56	52				. '	.				53.0	54·2 42·1	54.7	36·3	46.3	46.7	44-2	47.8	43.2	30.7	23.7	37.9
Madison Barracks, N. Y	42 57	76 04	~Z~									20 -	-	20.0		32.3	33.0			• • • • •	• • • • •	57.7	
Cambridge, Mass Lunenburg, Mass Worcester, Mass	42 22 42 36	71 07	40		•••••		:::::	• • • • • • • • • • • • • • • • • • •	· • • • • • •			40-9	47.2	55.3	33·2 47·8	50.5 47.2	43.6			43·1 56·5		54·1 47·7	43·3 50·1
Worcester, Mass	42 16	71 49	4831		•••••							51.1	40.7	48.5	37 · 3	42.5	44.0	34.5	49.2	38.5	37 • 4	55.5	43.0
MINWAUKOO, WIS	43 02	87 54 85 34	097 570					• • • • • • • • • • • • • • • • • • •				34-2	40.6	48.7	32·5 40·5			25·2 47·9		33·4 58·4	31.0 45.3	26·3 67·0	53.7
Springdale, Ky	41 29	71 20	40									•••••	54.8	67.6	49.0	42.7	'• • • • • • •				42.6		
Fort Niagara, N. Y	43 I5 43 0 8	79 05 78 20	202 600			•••••	::::::	• • • • • • • • • • • • • • • • • • •	1				30.4 30.8	37·0 26·5	18.8 23.8	26. 3		33.4					
Fort Moultrie, S. C	32 45	79 51	25	•••••	•••••		•••••	• • • • • •		••••			•••••	42.8	33.9	43.6		33·4 43·4	65. I	56.7	39-7	35.8	48- I
Fort Barrancas, Fla	30 21 41 20	87 18 72 08	262 600 25 20 23 800				:::::	• • • • • • • • • • • • • • • • • • •					• • • • • •	52.7	59·7 40·2	40·0 42·7	1	78-1				·	
West Marlboro, Pa	39 53	75 42		•••••	•••••		······	••••		••••	• • • • • •	¦		46-4	33.4	35.6	· · · · · ·	41.4	42.9	33-4	32.3	43.0	38.6
Athens, Ill		89 45 91 05	800			:::::		• • • • • • • • • • • • • • • • • • •						40.9 61.2	40·2 43·8	43·2 50·6	i	45.0 116.4	32.0	44 · 2	30·5 54·0	40·7 77·3	40.2
	J- - J	<i>)-</i> -3			+	Evider	ice of	overn	100801	ement	in ear	lier ve	ars.					- 7	•		.,,	5	

Table I.—Annual precipitation—Continued.

Station.	Lat. N.	Long. W.	Elevation.	1835	Pentad mean.	1836	1837	1838	1839	1840	Pentad mean.	1841	1842	1843	1844	1845	Pentad mean.	1846	1847	1848	1849	1850	Pentad mean.
Fort Scott, Kans	31 12 40 44 40 23 34 14 43 29	94 41 88 02 74 10 74 57 96 38 76 35 81 18	200 35 72 645 335											76.4	40. 3 40. 4 36. I 34. 4	68.5 36.8 42.7 34.6		65.3 51.7 45.0 49.7	71.2 53.8 51,2 37.4			49·4 51·0 53·4 41·4 34·6	34·7 62·9 46·7 45·5 45·6
Harrisburg, Pa Fort Mackinac, Mich Muscatine, Iowa Carlisle Barracks, Pa	40 16 45 51 41 26	76 53 84 40 91 05 77 14	320 728												29. I	30. 3 19. 8	::::: 	47·1 17·6 34·6	32·3 23·2 28·4	23·3 3	22.2	26.9 49.1	

I		Lat. N.	Long.	Elevation	1851	1852	1853	1854	1855	Penta mean	1856	1857	1858	1859	1860	Penta mean.	1861	1862	1863	1864	1865	Penta mean.	1866	1867	186
I	Alabama. Auburn	0 /	85 34	Feet.	1			ļ	27.5		45.7			 	ļ 					ļ 	·				
G	Carlowville Decatur	32 05	87 15	400					37-3		43.7	47.5	59-2	59·7		į								49-5	64
	Green Springs	32 47	87 43	500					35-9		55.5	50.2	50.7	55-4				•••••			;· <u>····</u>			40-5	58
ľ	Greensboro	32 34		150					37.5		52.3	47-9	43.8	53.5	54.9	50.5	49.9	43.2	54.4	53.5	55.7	51-3	55-1	48.0	
	Mobile Montgomery			219	' · · · · · · · · · · · · · · · · · · ·							· · · · · · ·										į			
Ì	Moulton Union Springs	34 27 32 08	87 25	643 516										' !										44-I	44
١	Valley Head Mt. Vernon Ars'l	34 30	85 30	1,058	48.8	51.5	106.5	62. I	50.7	65.7	58. T	40.7	64.3	65.0	50.6	57.5					1		·	·	' ·
E	Huntsville	34 43	86 40	600	1	31.3										37.3									,
F	yramid Harbor	59 00	136 00	43			اا				·					ļ	إا					٠	٠	, .	
	st. Michaels	57 10	170 01	40				•••••							••••• •••••				'						
S	itka	57 03		03	72.5		90.9	07.3			87.5	09.7	01.2	61.7			50.0	05.9	74.2			,			OC
A	. Arkansas. Arkansas City	33 33	91 08	145 123 418 197 1,540 298 233 660	'															¦	,	· • • • • • • • • • • • • • • • • • • •	'		ļ
Ē	Camden	35 22	94 24	418		61.0	24.3	37.8	33.9		29.5	38.7								·····			,		
Ė	Hot Springs	34 05	93 01	1,540	l:												, <u></u>	•••••					,	•••••	
L	Lead Hill	36 29 34 45	92 45	298		• • • • • •			 	• • • • • • • • • • • • • • • • • • •				· · · · · · ·				•••••							
ľ	Mount Ida Newport	34 41 35 31	93 38	233				•••••									::::::		 						• • • •
٧	Newport	33 34	93 41	660	41.5	69.5	55.2	59-2	47.6	54.6	46.2	57· I	56.7	46. I	64.6	54 · I		• • • • • • •			,		ļ 		•••
A	Arizona.	33 48																							
Ē	Benson	32 00	110 22	3, 580															1		`	•••••			
Ĭ	Defiance, Fort	32 53 35 43	109 10	1, 398 6, 500			13.6	22.3	17.0		11.6	13.0	11.9	11.4	11.8	11.9		· · · · · · ·				i			:::
F	Bowie, Fort	34 18 33 03	II2 40 III 20	3, 726 1, 553		· · · · · · ·					: • • • • •	• • • • • •						· • • • • • • • • • • • • • • • • • • •			'				27
ĭ	Holbrook	34 55	110 30	5,047	1																				•••
Ļ	luachuca, Fort	31 20	110 20	4,785			• • • • • •	• • • • • •	,,	• • • • • •	',		,	• • • • • •	•••••	!	'	•••••			'		• • • • • •	•••••	• • • •
į	McDowell, Fort	33 41	111 36	I, 500	,					· · · · · · ·	ļ		•••••	· · · · · ·		ļ							;	15.0	115
0	McDowell, Fort McDowell, Fort Mohave, Fort Maricopa Phœnix	35 02 33 05	114 30	1, I90					' • • • • • • ;		· · · · · · · · · · · · · · · · · · ·	· · · · · ·						· · · · · ·					`	•••••	
3	an Carlos	33 12	110 27	3,456			' • • • • • • '				' • • • · ·					i				l			٠	·	٠.,
ĭ	Cexas Hill	23 48	113 40	355					· · · · · · · · · · · · · · · · · · ·							l									,
į	riomas, Camp	33 03	110 54	2,700	· · · · · · · ·			•••••									' • • • • • • • • • • • • •	•••••		'			' 	`	
ť	Verde, Fort Vhipple Barracks.	34 32 34 33	111 47	3, 160 5, 318					`•••••,								• • • • • • • • • • • • • • • • • • •								· • • •
V	San Simon Fexas Hill Fhomas, Camp. Cusson Verde, Fort Whipple Barracks Wickenburg Luma Colliformia	32 18 33 58	109 45	4, 166	,: <u> </u>				' _.					•••••		i '	'				•••••				•••
Y	uma	32 41	114 36	141			!			•••••			,	•••••	•••••			•••••							, • • •
A		39 20	120 46	3,607	,				¹	•••••			ِا									· · · · · · · · · · · · · · · · · · ·	•••••	•••••	•••
Ä	Alta Ansheim Antioch Auburn Benicia Barracks Bidwell, Fort	35 49 38 00	121 48	250								•••••		•••••				· · · · · · ·							
Ê	Benicia Barracks	35 54 38 02	122 08	1,563 64	15.2	17.5	11.8	12.4	17.5	14.9	12.2	12. I	12.3	13-8	14.5	13.0	13-4	19.7	12.3	16.3	10.8	14-4	••••••		
E	Bidwell, Fort Boca	41 53 39 24	120 11	4,640 5,531				· · · · · · · · · · ·	'								!							41-8	17
E	BordenBowman Dam	36 58	120 04	274			•••••			•••••	•••••	•••••	•••••	•••••											•••
Ē	Bowman Dam Brentwood	37 56	121 48	l XΩ									1				'				l	'	'		
Ē	Brighton	37 48	121 42	33																					
Č	aliente	35 17 38 38	122 34	331				'									'			1		i			٠
C	herokee	39 44	121 41	196				'	· • • • • • • .							' <i></i>									
C	Cisco	39 19	120 33	5, 939	' 				'						' .				·		l	' • • • • • •			
С	Colton Colusa Ranch	34 02	117 22	965	,																	·			
О	rystal Springs	37 35	122 16	220			'				'														٠
L	Davis Delano	35 57	119 26	319	'						'				' .								`		١
Ŀ	Dunnigan East Brother L. H.	37 56	122 24	63														 .	`				¹ .		
ľ	airfield	38 14	122 02		·																				
ŀ	firebaugh	36 50	120 30	150			,										۱ ۱			١		·			
F	resno	36 44	119 48	295									·		' .		١								
G	alt	41 05	123 15	397			'								l			39.2	63.8	66.3	65.6	l .			49
Ģ	eorgetown	36 59	121 33	2, 433 261													''								
G	∃oshen ∃rass Valley	36 21 39 15	119 24	286													1		' :		·				
G	Frayson	37 35	I2I I2	55																	·				
Ŀ	dumboldt L. H	40 24	124 21	50									l				• • • • • •				١	·			
I	Iumboldt, Fort ndepend'ce Camp.	36 50	117 30	4, 598				29.0	38.9		27 · 2	32.3	41.6	42.8	40-8	36.9	33.7		37.6	20-8	31.4	•••••	5.8	21.7	9
I	one	33 49 38 21	110 14	287	'			 . .					' 			`								,	
I	owa Hill	39 05	120 45								'	·			l	١	'	. 							

1869	18	70	Pentad mean.	1871	1872	1873	1874	1875	Pentad mean.	1876	1877	1878	1879	1880	Pentad mean.	1881	1882	1883	1884	1885	Pentad mesn.	1886	1887	1888	1899	1890	Pentad mean.	1891	Man has
:·									; ·:-:-:-					<u> </u>		54. I	64.9	<u>.</u>	50.6	56-8	·····	55-0	72.5	62.2	44-9	46. 2	56.2	49-5	
19-1 10-1	034 	.6	· • • • • • • • • • • • • • • • • • • •	72·5	70.7	01.3 47.8	53.6	79·3	71·5 54·9	54.0	65.5	54.2	61.2	68.0	61.0	43.4	56.5	54-8	50.7 60.8	46.7	50-4	46.3	41.7	41.7	49-9	45-8	45· I	58.9	
••••									 				· · · · · · ·							40.7			44.8	57. I	30.4	42.7		50.4	-
••••	••••	•••		62.0	68-3	68.9 64.1	56.3 51.9	62.8 58. I	63.7	58.7 59.7	68.8 50.4	63·5 55·4	57·4 48·4	64.5 54.3	62.6 53.6	90.9 53.8	74·6 54·7	58.4 39.7	48.7	64.0 58.7	71. I 51. I	54·4 56·3	51.8 44.7	75·7 61·4	50.0 45.7	42.6 48.1	54·9 51·2	57·0 51·1	
16.4 1.4	34	. 2 .		54.8	28.7	10.5	52.7	40. 2	47.2	27. A	42.2	44.4	24. 2	28. O	20.5	47.6	52.1	45.2	37.5	43.8	45-2	49.3	51 1	62.6		:::::			
••••						54.7	85.6 81.8	64.5 65.0		59.6				· · · · · · · ·			74-7	62.9	69-5	62.0		56.7	45.1	57·3 65·5	49.4	49.2	53.0	56.4	
••••				· • • • • •	ļ	·										.i	67.4		39.9	11.2		9.9	5.3		.				
• • • · ·	`	•••	• • • • • • • • • • • • •		¦	31.2	45-9	47 · 3			9·4 31·7	16. 3 	7.2																1
• • • •	1	•••					• • • • • • •			•••••		•••••						46.4	50.6	21.7		44.5	48.9	58.5 49.1	38.3 50.4	59.2 60.1	50.6 46.5	44.8	
• • • • •					·		62.5	49.6		42.2	80.5	65. o		65.6		37.0	80.5		67.8	39-9		54-1	45.0	62· I	41.0	75·2 80·8	55.5	54·4 63·2	
••••							· · · · · · · ·						•••••	56.2		43.0	73·7 75·5	78·3 55·6	62.2 71.1	42.5 35.8	59·5 56·2	46.0 47.5	49·5 38·5	45·9 57·4	43.8 54.4	59.0 63.9	48.8 52.3	35.1 51.5	1
••••	••••		• • • • • • •		51.9	61.6		49.7			• • • • • •				• • • • • •	• • • • • • •							35.2	47.9	51.1	/2.2	• • • • • •	48.0	
••••	!	•••		· ···					1				1	1	1		ł			l .			i					•••••	
3-3	14			16-7	11.4	9.5	18.8	13.6	14.0	15.2	8. 5	20. 2	8.4	13.4	13.2	16.0	18. T	13.7	25.0	12.0	17.1	25.2	20.4	15.6	12.2	17.6		8. í	ĺ
••••		••••			•									·		1.7	2.9	3.0	9.8	2.0	3.9	5. 1	7.9	4.3	4.2	10.8		3.6	
0 .6										9.4	5.2	13.6	12.0	5.3	9.1	12.0	i								13.2	13.6		8.2	
••••	• • • •		!			18-1	17.9	20.9			10.2	16.4	12.9	15.7		18.8	14.9	15.5	25.7	9.0	16.8	12.6	9-5	14.2 10.8	13·4 7·7	16.7 12.5	16.3	12.2 6.8	
4·7	6	.; .	· · <i>· · · ·</i>	9.6	13.5	7.4	14.3	11.1	11.2	15.9	9.9	14-4	11.4	8.7	12.1		14.0 9.1					11.4	15.3	20. I	15.5	19.0	10.4	10.7	
7.8 2.5	5. 3.	7		4.8	2.3	9.3	11.6	3.2	6.2	5.2	3.2	3.9	3.3	2.2	3.6	3.7	2. I	3.4	10.2	2. 2		E.X	5. h	T4.5	21.4				
••••	••••	••••							.' .,	9.2	4.0	8.5	6.6	3·4 7·0	8.8	8.9	6.9	7.5	12.8	3.7	5.2 8.0	5.7			75.4	8.7		2.9	
••••		••••							.!								15.4	12.2		8.0		10.5	8.7	12.9	13.3	18.7 8.5	12.8		
••••														1.0		13.8	2.5 8.8	3.0	5.1	2.5	3-4	4.8	4.3	4.9	3.4		4.0	٠	
5-3	6.	.,	· · · · · · · · · · · · · · · · · · ·	4.8	12.7	8.5	17.2	10.7	10.8	14. I 26. 8	12.7	16.6	8.9	6.7 7.3	12.4	14.8	15.4	13.0	14.9	5.2	11.6 13.8	8.7 II.2	12.9	10.7 20.9	18.5 16.3	14.2	13.0	7.5	
	18.	•4 •	· • • • • · ;	13.6	16.4	12.2	·····			16.0	12.3	15.5	12.8	10.0	13.3	15.4	15.2 8.7	8.7	18.3	8.4	10.1	9.5	16.4	18.6 12.0	20.8	21 · 1 17 · 9	19.3	14.8	
••••		••••		•••••	· · · · · · · · · · · · · · · · · · ·							8. I 2. 9		6.8 0.7	2.3	11.5	1.7	3.9	17. I 5. 9	2.7	3.0	5.3	3.9	2.9	4.6	4.6	4.3	2.5	ı
			•••••	29. I	32.7	34-0	47.7	45-9	37.9	32. 1	31.1	47.1	81.3	40.0	46.4	61.6	51.1	31.6	43.0	5.2				21.1	24.6	 9.6	15.7	12.4	
					35.0				32.3				10. I	15.5	34 - 2	8.5	9.2	9-3	20.6	9.8	11.5	7.6	8.8	11.9	21.0	13.8	12.6	15.3	
			:	10.4	14- I	17. I	14.0	14.8	15.Q	15.4	7.0	21.2	17.8	21.0	16.7	14.0	14.1	12.0	31.4	20. I	18.5	16.6	15.0	18.0	20.0	22.8	20.6	17.8	
••••			· • • • • · • • • •	16.8	8.4	11.7	21.9	10.6	13. 3 13. 9	17·6 5·9	9.0 5.2	15.8	7.9	16.9	16.1 8.2	6.8	6.8	11.3 6.3	28.6 20.4	8.4			٠.,	•••		0.0	٠.,	, ,	
																					73. I 11.2	0.1	11.1	13.7	25.1	15.4	14.0	13.8	
		• • • •												, 16· I		10.8	9.0	9.8	20.7	11.5	12.4	10.0	9.6	13.4	22.9	15.8	14.3	12.4	
••••	••••	· : :	; 		41.6	20·9 38.4	29·9 48·5	23.4		38-1	18.9	48-5	45·2	40-1	38.2	32.6	25.3	18.9	46.4	27.3	30. 1	24.9	24.3	32.0	49.3	40.0	34.1	· · · · · ·	
		••••		22.6 57.7	26.3 44.4	19-4	24.3 46.7	15.6	21.6 44.5 43.2	21.9 56.1	17.4	31.3	25.0 63.9	17·5 53·0	22.6 45.8	14.6 78.1	17·6 68. 3	17.0	23·3 77·3	20.5 33.5	18.6 57.8	10. I 42. 0	15.4	20.9 38.9	29.8	21.8	20·8	20.0 36.2	
								· • • • • • •			8.3	14.4	8.3	7.8		4.0	8. I	29·4 7·2	71.9 26.8	31.6 5.7	43.6 10.2	36.8 8.0	28.4 7.2	35·4 15·1	69.0 18.2	8.0	11.3	46-3 9-3	
										37.2	16.3	55.2	53.8	51.2	42.8	20.4	. 25.2	18.5											
			• • • • • •			14.2	12.4	13.8		4.0	4-9	6.3	3.7	9. I	5.6	12.8	5.3	6.1	23·5 13·2	7.1	7.3	4.3	5.5	7.1	9-1	4.5	5.9	5.5	1
									• • • • • • • •		3.1	3	,	• •	1.3		1 /						5.0	10.0	15.8		9.6	12.6	
	٠											16.4	15.8	19.5	7.7	9.6	16.2	14.9	26.8 14.6	10.3	15.6	14.7	9.9	13.9	20.2	11.3	14.0	17.1	
					22.7	17.8	19.5	20.5		22.7	8.5	24 · I	26.7 6.8	28.4	22. I	22.6	20.3	19.0	34.7	20.8 12.1	23.5	24 · I 8 · 3	20.6 8.0	1.01	31.7	29.3 8.4	25.0 9.2	20.9 8.9	
						'			48.2			17.5	16. g	17.8	·	13.5	13.7	15-2	22.8	10.1	15.1	16.0 55.4	13.6 43.8	16.3 3 9.7	25. I 56. 8	20.7 58.0	18.3 50.7	18. î 64. 4	
••••				•••••	•••••	41-1	65.6 17.3	64.2 23.2		56.7 18.7	35·4 8·1	60.5 27.3	76.2 21.1	71.9 28.8	20.8	62.3 14.6	52.6 15.8	38.8 11.9	99·4 32·8	40.9 13.2	58.8 17.7	56.3 14.3	14.7	39.6	26.9	23.3	19-2	36.9 16.8	
				•••••	•••••	45.6	57 2	50.3		49.3	27 . 3	53.2	69.1	67.9	53-4	50.9	44.2	31.6	79-1	38.8	48.9	39.0	36.9	7·5 36·5	68.6	7·5 55·5	8.5 47·3	5.9 41.1	
				20.0	***5	9.5	11.8	13.6	13.1	8.8	6.2	16.5	12.5	14. I 27. I	11.6	8.2 28.0	11.2	8.8	19.2	8- I	11.1	9.5	8.6	12.0	19·4 48·2	13.0 52.6	12.5	11.6	
[.]	• • • • •	•••¹• ••	R. 2	6.0	3.0	7.0	5.2	3.0	4.4	4.6	•••••	•••••	•••••		••••	•••••	•••••	• • • • • •	•••••	•••••	•••••	•••••	•••••			•••••	33.3		
••••		: :		•••••				1				1. I 18.6	I.3 22.8	0.7 21.4		3·9 15·6	2.5 17.7	3.0 17.1	5·4 35·9	1.0 14.3	3. 2 20. I	0- I 18- I	1.4 15.3	3. I 12. 0	7.0	I · 2 22 · 3	2.6 18. 1	3·3 15·3	
																		11.8	34 • 4	20.2	••••	17.3	10.7	21.7	30.9	17.7	48-7	43.7	
		•••'•								• • • • •		17.9	11.4	12.9		9.4	9.0	10.7	30.8	7.3	13-4	11.4	11.1	8.7	19.0		13.8 8.8		

State and station.	Lat. N.	Long. W.	Elevation	1851	1852	1853	1854	1855	Pentad mean.	1856	1857	· 1858	1859	1860	Pentad mean.	1861	1862	1863	1864	1865	Pentad mean.	1866	1867	1
California—Cont'd.	0 /	0 /	Feet.					!			!													
Knights Landing La Grange			35			` · · · · · ·										•••••						' • • • • • • • • • • • • • • • • • • •		
Lathrop	37 49	121 16	25	·				1		1	'				' .						!			
Lemoore	36 17	119 51	227	•••••			·	• • • • • • • • • • • • • • • • • • • •			,		••••	 	•••••		• • • • • •		• • • • • •					• •
Lewis Creek Livermore	30 I2 37 40	118 58	450											1	. 						· · · · · · · ·			٠,
Los Angeles	34 03	118 12	371			:																		: :
Los Banos	37 04	120 58		· · · · · · ·			• • • • • •						ļ		•••••	•••	• • • • • •	I <u>-</u>			•••••	•••••		
Mammoth Tank Martinez	33 07	122 00	205																					::
Marysville	39 09	121 35	60		1	' · · · · · ·					<i>.</i>			'	' <i></i> .	· • • • • • • • • • • • • • • • • • • •								
Mendocino Menlo Park	39 18	123 48		• • • • • • •	• • • • • •				1		!		'				• • • • • •				. • • • • • •		• • • • • •	• •
Merced			171																					
Modesto	37 38	120 58	90	• • • • • • •	!			ļ				•••••						·····	· • • • • •	·				
Mojave Monterey	35 03	110 11	2,751 40																17.1	8.1		21.6	1	• •
Mount Hamilton	37 20	121 30	4, 250																			·		-1-
Napa			20		•••••			•••••			l		• • • • • • •		, .	• • • • • • •	• • • • • •						1	٠.
Nevada City Newhall			1, 268			1						!	1						48.0	30.2		82.7	102.8	۰ ۱
Niles	37 35	121 58	87					1																
Oakland	37 48	122 15	25							!	٠				• • • • • •	•••••	• • • • • •		• • • • • •		ļ			• •
Petaluma	38 24	122 38	10								 .			i										٠.
Pigeon Point	37 12	122 21	150			·								1				'				١		٠,
Pilarcitos Placerville			2.100									•••••			••••				•••••	33.9	•••••	70.0	73-4	1:
Pleasanton	37 AI	121 47	, 360								¹													
?t. Ano Nuevo L. H.	17 00	122 18		·			٠	1						'						1	' .	· • • • • •		
Point Arena L. H Point Bonita L. H.	38 54	123 30	T24										••••		• • • • • •			•••••						• •
t.Concention L. H.	2/1/20	T20 24	258	iz					'					!										
t. Montara L. H.	37 32	122 31	,		• • • • • •	• • • • • • •	••••				•••••	· • • • • •			• • • • • •		• • • • • •		• • • • • •		•••••		· • • • • • •	٠.
Point Reyes L. H. Pomona			290 857																	1				•
oway	32 58	117 01	540																					
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Red Bluff	40 10	122 15	342									l		1										
ledding	40 36	122 27	565								• • • • • •									,				
lings Station Liverside	34 02	116 56	4, 300	'	• • • • • •		• • • • • •	• • • • • •	·····				•••••	ļ	• • • • • •	•••••	•••••		••••	!		• • • • • •	¦	•
locklin	38 40	121 12	240											1 '										
loss, Fort	38 35	123 05	·										·						 .					٠.
alinas City an Andreas																								
lan Bernardıno	34 06	117 18												::::::									1	
lacramento	38 35	121 30	64	15. I	27.0	19.9	19.7	18.7	20. I	14-1	17.0	16.8	16.8	19.8	16.9	20.9	27.4	12.3	19.3	11.3	18.2	26.4	29.9	- 1
an Fernando an Diego	34 10	118 26	1,000	7.3	11.8	7.8	17.8	11.2	10.0	0.0	6.2	7 6	6.2		7.8	7.8	77.6	2.9	7.4	7 5	7.4	. 12 2	15.6	• ;
an Francisco	37 48	122 26									20.8	23.4	21.4	20.5		25.5	38.5							
an Rafael an Mateo	37 59	122 31	25			•••••	• • • • • •	• • • • • • • • • • • • • • • • • • • •	•••••	• • • • • •			• • • • • • • • • • • • • • • • • • • •	ا ا	• • • • • • •	•••••	•••••	!	• • • • • •					• • •
an Luis Obispo	35 18	120 30	270								1	1	,	1 1		i							i	
anta Barbara anta Cruz	34 25	119 40	30																					, 1
cott Valley	30 58	122 02	25	•••••	•••••		•••••	,	• • • • • • •		• • • • • •	••••	• • • • • • •	22.2	• • • • • •	22.6	20.5	22.2	25.0	20.6	24.4		. 26 5	٠.
hingle Springs	38 30	20 55	I, 393	23.4	40.6	40.9	27.9	18.4	30.2	18.4	23.0	21.5	36. I	23.3 23.5	24.5	35.2	67.7	23.6	34.9	25.0	37.3	50.7	60.8	١.,
oledad	36 26	21 27	188	· · · · · · ·	• • • • • •		• • • • • •	• • • • • •		• • • • • •			••••				•••••		•••••			,	· • • • • •	
outh Vallejo padra	34 03	122 20	705	'																				
tockton	37 58	121 15	20	اِ اِ		10-9	20. I		اا	11.7	11.5									i • • • • • • ,	• • • • • •			٠.
umnerummit	35 24		422	••••••	• • • • • •	• • • • • •	• • • • • •							·····										
ehachapi	35 06	120 27	3, 964						,															•
`ehama	40 02	122 07	220	•••••	•••••										•••••							•••••		
racy ruckee	37 45	121 26	220 76 5,819 289 106								•••••	•••••			••••••	••••••	•••••	•••••	•••••	• • • • • •	•••••	•••••	•••••	• •
ulare	30 13	IIQ IQ	280																					•
urlock	37 30	20 52	106		• • • • • •	•••••									•••••		•••••	•••••			•••••			
Jkiah Jacaville	39 08 1	23 24 121 58	175																					•
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	40 47	23 27	2,000	ا•••••ا	• • • • • • •	٠٠٠٠٠	•••••			•••••		•••••		•••••	• • • • • • •	• • • • • •	•••••	• • • • • •	• • • • • • •		•••••	•••••	,	٠.,
Veaverville	39 18	116 30	90 1, 126										• • • • • •	i					• • • • • • •					•
Veaverville Vest Butte		122 10	. 89																					٠.,
Veaverville Vest Butte Vhite Water Villiams	30 10	122 12	132	'	•••••	• • • • • •	•••••				•••••	•••••		·····'	•••••	•••••	•••••	•••••	•••••	•••••	•••••	•••••	•••••	• •
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Vest Butte Vhite Water Villiams Villows Voodland Vright, Camp erba Buena L. H.	39 31 38 42 39 45 37 48	123 00	.07		• • • • • • •				•••••					•••••				•••••	• • • • • •		•••••	•••••		• •
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Veaverville. West Butte Vhite Water Villiams Villows Voodland Vright, Camp erba Buena L. H. reka uma, Fort Colorado.	39 10 39 31 38 42 39 45 37 48 41 45 32 44	123 00 122 22 122 32 114 36	2,635 200				 .					••••••	• • • • • •	· • • • • • .		,								٠.
Veaverville. Vest Butte Vhite Water Villiams Villiams Villiows Voodland Vright, Camp erba Buena L. H. reka uma, Fort Colorado. olorado Springs.	39 10 39 31 38 42 39 45 37 48 41 45 32 44	123 00 122 22 122 32 114 36	2, 635 200 6, 032						'		• • • • • •				•••••	٠٠٠٠٠١			• • • • • • •		•••••	•••••		••
Veaverville. Vest Butte Vhite Water Villiams Villows Voodland Vright, Camp erba Buena L. H. reka uma, Fort Colorado. olorado Springs.	39 10 39 31 38 42 39 45 37 48 41 45 32 44 38 55 30 45	123 00 122 22 122 32 114 36	2, 635 200 6, 032 5, 204	ا ••••••	•••••	'									!	'							3.3	••
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Veaverville. Vest Butte Vhite Water Villiams. Villiams. Villiows Voodland Vright, Camp erba Buena L. H. reka uma, Fort Colorado. olorado Springs. enver earland, Fort eorgetown erwis, Fort	39 10 39 31 38 42 39 45 37 48 41 45 32 44 38 55 39 45 37 25 39 43 37 15	123 00 122 22 122 32 114 36 104 58 105 00 105 23 105 41 107 50	2, 635 200 6, 032 5, 294 7, 937 8, 594 6, 700 8, 500	' '												• • • • • •		'						••
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Weaverville. West Butte. White Water. White Water. Williams. Williams. Williams. Woodland Wright, Camp. Gerba Buena L. H. Freka. Colorado. Colorado. Colorado. Colorado. Springs. Denver. Gerver. Gerv	39 10 39 31 38 42 39 45 37 48 41 45 32 44 38 55 39 45 37 24 37 15 38 34 37 24 37 15 38 30 39 38 30 39 39 39 39 39 39 39 39 39 39 39 39 39 3	123 00 122 22 122 32 114 36 105 00 105 23 105 41 107 50 107 50 107 56 103 12 107 56	2, 635 200 6, 032 5, 294 7, 937 8, 594 6, 700 8, 500 3, 899 5, 796 4, 000						······					· · · · · · · · · · · · · · · · · · ·										
Weaverville, West Butte White Water Williams Williams Woodland Wright, Camp Verba Buena L. H Ceka Colorado Colorado Springs Colorado Springs Lenver Fort Fort Fort Fort Lewis, Fort L	39 10 39 31 38 42 39 45 37 48 41 45 32 44 38 55 39 45 37 24 37 15 38 34 37 24 37 15 38 30 39 38 30 39 39 39 39 39 39 39 39 39 39 39 39 39 3	123 00 122 22 122 32 114 36 105 00 105 23 105 41 107 50 107 50 107 56 103 12 107 56	2, 635 200 6, 032 5, 294 7, 937 8, 594 6, 700 8, 500 3, 899 5, 796 4, 000											· · · · · · · · · · · · · · · · · · ·					•••••				11.8	::
Weaverville. West Butte. White Water. Williams. Willows. Woodland Wright, Camp. Gerba Buena L. H. Gerba Buena L. Gerba B	39 10 39 31 39 42 39 45 37 48 32 44 38 55 37 25 39 45 37 25 39 43 37 15 38 30 38 30 38 30 38 30 38 30 41 45	123 00 122 22 122 23 114 36 104 58 105 00 105 23 105 41 107 50 107 57 103 12 107 56 103 30 104 02	2, 635 200 6, 032 5, 294 7, 937 8, 594 6, 700 8, 500 3, 899 5, 796 4, 000 14, 134											· · · · · · · · · · · · · · · · · · ·		43.0	44.6	62.7	45.9	54.4	50-1	71.2	11.8	··· ·· · · · · · · · · · · · · · · · ·
Weaverville. West Butte. White Water Williams. Williams. Williams. Williams. Woodland Wright, Camp Torba Buena L. H. Torba Buena L. H. Tokan Colorado Springs. Denver Sarland, Fort. Beorgetown Iermosa Lewis, Fort Las Animas dontrose Lyon, Fort Pikes Peak Connecticut. Solebrook	39 10 39 31 39 34 39 45 37 48 32 44 38 55 39 45 37 24 37 15 37 24 37 37 24 38 30 38 30 38 30 38 30 38 30	123 00 122 22 122 32 114 36 104 58 105 23 105 41 107 50 107 50 107 56 103 12 107 56 103 30 104 02 72 55 73 03	2, 635 200 6, 032 5, 294 7, 937 8, 594 6, 700 8, 500 3, 899 5, 796 4, 000 14, 134 342 1, 210													43.0	44.6	62.7	45.9	54-4	50.1	71.2	11.8	7
Weaverville, West Butte. White Water Williams Williams Williams Woodland Wright, Camp Jorba Buena L. H. Treka Colorado Springs Denver Sarland, Fort Les Animas dontrose Loon Fort Likes Peak Connecticut. Canton * Colorook Colorook Color	39 10 39 31 39 42 39 45 37 48 41 45 32 44 38 55 39 45 37 25 39 43 37 21 38 30 38 30 38 30 38 30 38 30 41 52 42 40	123 00 122 22 122 36 104 58 105 23 105 24 107 50 107 57 103 12 107 57 103 30 104 02 72 55 73 03 77 18	2, 635 200 6, 032 5, 294 7, 937 8, 594 6, 700 8, 500 3, 899 5, 796 4, 000 14, 134 342 1, 210													43.0	44.6	62.7	45.9	54-4	50.1	71.2	11.8	7
Weaverville. West Butte. White Water Williams. Williams. Williams. Woodland Wright, Camp Jerba Buena L. H. Treka Tuma, Fort Colorado. Solorado Springs Denver Sarland, Fort Hermosa Lewis, Fort Las Animas dontrose. Lyon, Fort Jikes Peak Connecticut Lanton Solebrook Columbia Hartford Liddletown	39 10 39 31 39 42 39 45 37 48 41 45 32 44 41 45 37 25 39 43 37 25 39 43 37 25 37 25 38 04 38 50 38 50 41 50 41 40 41 43	123 00 122 22 122 32 114 36 104 58 105 00 107 50 107 50 107 57 103 12 107 50 107 50 107 57 103 30 104 02 72 55 73 03 72 18 72 18 72 39	2, 535 200 6, 032 5, 294 7, 937 8, 590 8, 500 3, 899 5, 796 4, 000 14, 134 1, 210	42-1	40.0								53.4			43.0	44.6	62.7	45.9	54.4	50.1	71.2	68-8	7
Weaverville. West Butte White Water White Water Williams. Willows Woodland Wright, Camp Cerba Buena L. H. Treka Colorado Springs. Denver Harland, Fort Heorgetown Hermosa Lewis, Fort Las Animas Controse Lyon, Fort Likes Peak Connecticut Connecticut Colebrook Columbia Lartford	39 10 39 31 39 42 39 45 37 48 41 45 32 55 37 25 37 25 37 24 37 15 38 30 37 24 38 30 38 30 38 30 38 30 41 40 41 45 41 33	123 00 122 22 1122 35 1104 58 105 00 105 23 105 41 107 57 103 12 107 56 103 12 107 56 103 02 72 55 73 03 72 18 72 40 72 36	2, 535 200 6, 032 5, 294 7, 937 8, 594 6, 700 8, 500 8, 500 14, 134 342 1, 210	42.1	40.0								53-4			43·0 47·1	44·6 48·1	62.7	45.9	54·4 42.6 41.8	50.1	71.2 46.1	68-8 49-4 45-3	7

precipitation.—Continued.

869	1870	Pentad mean.	1871	1872	1873	1874	1875	Pentad mean.	1876	1877	1878	1879	1880	Pentad mean.	1881	1882	1883	1884	1885	Pentad mean.	1886	1587	1888	1589	1890	Pentad mean.	1891
7·5					10-8				13.9		17.7	16.5	17.4	14.6		12. I 14. I	15.4	31.3	14-4	17.9	12.9 14.2	13.4	14. I	30.6	18.0		15.1
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					11.2	10.9	16.3	13.5	12.5		15.1		20.5	13.7	10.9	12.5	5·3 13·0		12.4	15.3	10.2	13.8	15.0		17.6		15.6
					10.8	21.2					8.3	17·3 4·4	7.2		4.6			٠	10.6	16.3	6.9	3.1	20.9 8.9	33·3	7.9	7.9	7.8
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												20.9 75.3	18.4 53.7	17.8	16.5 46.9	15. I 34. 3	11.6 26.0	18.4	51.6	15.2	12.8	14.7	20.8	33.8	23.5	21.1	17.0
											10.4	18.5 8.5	21.9		12.0	10.0		26.0	13.0 9.8		13.2	6.3	14.7	26.9 12.8	18.3	16.7	18.2
			8.0	10.6	7.9	11.6	10.9	9.8	7-9	5.2		13.0		9∙5	5.8	8.3		14.5	8.4 3.8	9. I 3.8	8.7	5.7	8.5 8.4	13.1	10.5	9.3	7.7
			•••••									15.4	17.1	,	11.9	14.7	15.5	26.5	11.9	16.1		10.5	14-6	25.1	16.0	15.7	13.4
		• • • • • • •	'. <u>.</u>							13.8		29.6	28.6		-7.7	17.0	32·2 17·9	30.4	18.4		25.2 18.6		25·4 20·7	35.8	30.7	25.2	26.2
55.4					48.3		'		` <i></i> .	4.8	12.0		70.8 13.3		8.2		39.0 13.9		13.7	52.2 18.0	14.4	21.1	22. I		14. I		15.4
			18.7	16.2	12.6	26.3	17.3	16.0	16.4			18-8 29-5	21.7	17.9	14.5 26.2	14.4	13.3 15.8		14.5	17.2 24.3				26.2	18.6 26.1	18.7	18.7
• • • • •						17.2	15.9		18.4	6.2	27.9			18-8		15.9	13.7	29.9	15.3	18.0	17-5	15.1	17.8	31.4		20.7	21.1
		·					12.7		16.6	12.4		18.2	30-4	22.8	10.0	16.4	10.5					11.8					
						48.2	45.2		43-3				54 · 3		44-7	41.5	32.3	74·1		45·0	40-2	36-4		56.9	51.3	44 2	38.9
									19.2	23.9		24.8	22.3	24.2	20.2	18.3	15.1	33.9	13.9	21.0	17.3	12.4 17.2	16.7 22.9		17.9	16.3 25.7	25.7
 					,				21.5	22.7	33.5	22.3	29.7 28.0				12.7	40.4	33.4		30.1	19.9 20.2	28. I		24.8	27.9	37·7 30·2
 	•••••										16.2 ' 31.0			21.5			9·7 16·5		21.7		7·5 19·0	13.2 17.0		37.0	13.5	14·3 23·3	13.6 27.3
••••																		20. I	13.8		12. I			31.0	24.9	21.2	26.8 14.2
• • • • •						12.4	11.2		17.7	0.1	24.0	13.8	12.5	16.5	7.9		11.3 8.5	32.0	7.6	14.3	14-9	12.9					
													7.9		3.5	7.3	6.7	28. I	7.7	15.0	14.0	14.4		21.7	8.0	14.2	
							32.6		41.9	31.0	52.8	48. I	37 • 4		44.8		13.8		29·5 29·3	23.6 30.8	17. I 30. 3	13.7 23.8	21.9 27.7	32.7 62.3	25.6 35.9	22.8 36.0	23.2 31.5
• • • • •						·	13-4		22.6	24.9	32. 1	26.3	21.0	25-4	3.8	5.8	5.5	25. I	5. I	9.1	8. o	7.8	15.4	20.4	11.9	12.7	9.1
••••			20-5	21.0	16.1	18.9	15.2	18.3	17.2 48.4	9.3	23.9 88.0	24·3 77·6	23.6 57.6			20. I 44. 4		28.8 66.0	16.2 39.4	19.8	18.8 39.6	17.3 23.6	14·3 34·9	26.8	22.8 37.6	20.0	17.8
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	25.9									14.3	20.0	17.4	18.9	16.7	5.6	10.6	12.7	37.2	13.0	15.8	16.7	19.3	20.8	28.3	16.9		
	10.2								!		23.6 17.7	22.4 15.3	31.0	20.9	5.4	8.2	11.5	34.8	20.8	21.6 14.8		14.0	18.5	27·4 33·3	10.9	18.6	15.6
10.8 22.6	4·3	26.4	5.6 25.9	22.4	13. I 18. 5	22.6	22.6	8.5	7·2 23·5	12.0		14.7 30.8	30.0	26.0	23.5		8.0 15.3	27·5 38·7	5.8 24.9	II.2 24.2		10.3	23.0	15.9 37.0	7·9 25·4	24.9	9.0 21.1
					· · · · · · ·		38.7	1	41.8	17·1	56.2 26.9	39.7	45.0 27.6	40.0 20.3	35.4			30.8	20.6 16.7	38·4 17·5	16.1	17.8	20.0		21.5		24. I
11.8	13.4		25-3	16.7	14.8	19.3	21.3	19.5	23.0 16.6	12.2		12.8 14.6				16.8	16.5 16.3	50.0	23.0 17.2	24. Ĭ 18. 5	15.3	20.9 16.9	19.3 26.9	34.8	15.5	21.2	14.4
				·		19.6					37·I 27·I	23.7	23.8		26.3	21.1			18.8	24.2		19.6	28.0	44.9	25-3	28.2	26.1
,	16.7			• • • • • •		1	٠٠٠								35.5				26.9			26.6		64.5	35.4		30.9
						11.4	10.0		11.7	7.2	17.0	17.6		15.9					16.8	10.3 16.9	8.4 16.5	15.3		19.8		18.1	7·9 17·3
	6.9										15.7	11.0	20.2	12.9		8.2		25.9		10.7	13.2 11.0		13.9	17.6		14.1	11.1
							6.3		2.4	5.2	32.6	3.6 73.6	64.5	48.9		3.0	3.8 23.6	12.5	7.0	5.9	3.7	6.0 50.0	38.0	51.4	55.6	47.2	
			·	·						5.7	13.9	11.8	11.3		8.4	7·3	12.2	21.4	6.7	11.2	18.3	14.5	11.4	16.8	6.8	13.6	
					·							12.5	10.8		6.9	7.5	7.7	14.7	7.9	8.9	7.0	8.6	9.0	17.9	12.8	11.1	10.2
							6.0		5.6	6.0	6.6	4.2	10.9	6.7	5.6	6.0	5.4		7.7 10.3	7.7	5.5	5·8	8.4	11.7	8.1	7.9	6.4
										24.7	50.7	48-5	37.7	١	26. 0	8.4 26.1	18.5	33.7	30.8	27.0						`	
											9.8	7.4	14.2		7.4	22. 2 8. 2	·										
••••	40.8		40.9	50.7	25.0	38.1	35.6	38.1	34 4	35-7	54.7	52.0	30.7	41.5	48.4	30.0 12.4	26.2	37.5	36.2	35.7							
											5-9	5-9	3.6		2.7	2.2	4.6		' · • • • • •		' • • • • • • ·						
									·		·	13.5	12.5		10.7	9.0	6.4	21.9	14.0	12.4	9.4	10.2	13.0	21.7	15.8	14.0	18.9
42.3	20.9		34 · I	50.4	35.7	51-2										13.2		' -							` .		
				15.0	0.4	11.8	21.6		12. 3	11.8	16.8	21.0	0.6	14.7	24.4	13.9 13.2	11.4	10.4	21.0	17.0	16.2	16.0	13.4	18.5			
3.0	3.1	•••••	0.6	2.7	3. 1	7.5	2.4	3.3	0.9	2.8	2.8	2.6	0.7	2.0	1.7		, 		ı .	•••••	•••••	•••••		•••••	•••••		,
	12.1		12.1	18.5 18.2	15.9	16.7	17·3 17·2	14.5	20. I	16.4	16.3 15.4	10.8	۰۰۰۰۰ ۰۰۵	14.5	12.8	14-7	19.5	٠		15.6	14.5	17.0	9.0 9.6	13.9	0.4	12.2	21.5
12.8	37.8		24.8	42.3	7.8	11.0	14.9	20.2	7.6	8. 1	' • • • • • • • • • • • • • • • • • • •	9.8	7.8		10.7	8. 1	12. I				• • • • • •					' • • • • • •	
									14.4	13. 1	14 · I	14.6	15.8	14.4	15.7												
										•••••						10.9	14·2 11·1	15.8	13.7	15.2	19.3	13.5	10.8	21.9	24-3	19.3	11.9
	16.2		7.6	16.7	11.4	14.6		12.3	9.9	11.8	13.5	4.5	12.8	10.5				12.0	10.7		9.9	9.7	8.4	7.2 11.6	9-2	8.9	11.1
						26.9	24.7	····	23.7	25.5	42.9	40. ŏ	40.7	34·6	44.6	28.7	18.3	9.2	30.3	26.2	29-4	26.0		•••••		,	
75.2	49.0	67.6	49.0	44-3	49.6	49.8	43.7	47 · 3	47.9	42.6	52. 1	43.5	42.0	45.6	46.9	39-3	39.3	48.5	47.9	44-4	44.8	50.9	55-3	54 • 4	51.9	51.5	50.9
	53 - 5		50.3	52.3	42.3	47.0	50.4	48.5																			
58.6	39.9	49.2	40.8 51.5	43·0 43·9	46.1	44·0 44·7	38·9 42·7	42.7 45.8	40.5 51.3	45.6 52.1	50.6 49.6	43.6 48.0	40. I 42. 8	45·3 48·8	47·2 45·0	42.0 45.2	35.5	41.2	48.3 44.6	42.8	45.0 49.8	47·7 52· t	59.0 60.8	54·5 59·1	50.6 51.7	51.4 54.7	53.8
					57 - 5	55.8	43.5		53.9	51.4	58 · I	55-4	46.5	53· I	51.3	47.8	39.4	40.4	38. 3	45.2	42.4	44.0	56.2	50.0	40.0	50.3	44.7

	State and station.	Lat. N.	Long. W.	Elevation	1851	1852	1853	1854	1855	Pentad mean.	1856	1857	1858	1859	1860	Pentad mean.	1861	1862	1863	1864	1865	Pentad mean.	1866	1867	186
ì	Connecticut—Cont'd.	0 /	0 /	Feet.	:	!	i i	į į	1	i I	1					·!							1	1	1
5	Trumbull, Fort Wallingford	4I 20	72 08	23			'									,			23.5	20.3			44-3		
5	Delaware, Fort	39 35	75 34	10		· · · · · ·	! . • • • • • •	ا _.	39-5	·	31.4	26.0	17.1		·	·····				38· o	50.9				
3	Del. Breakwater Dover Milford	38 48	75 10 75 30	40		• • • • • •	¹																		
,	Washington	28 54		I			ĺ		i		1			1		38-8		1							
r	Morida.	26 45	81 33	. 15	·	, ,	· • • • • • • • • • • • • • • • • • • •				l				·	ļ			· · • • • • •		i			· · • • • • •	
:	ArcherBiscayne	25 53	80 07	12			1					` ·			1										
1	Daytona	29 12	10 18	10	:	55.6	54.0	39.5	34.3	ļ	34.5		54.3	51.6	ļ			' ,	· · · · · · ·	•••••			,		• ;•••
,	Jacksonville Jefferson, Fort Jupiter	24 38	82 62	43			; • • • • • • • • • • • • • • • • • • •	<u> </u>					•••••	· • • • • • • • • • • • • • • • • • • •			23.7	40-4	50.7	30.9	40-4	37.2	,	88. 1	28
	Key West Lake City	24 34	80 07 81 49 82 40	27 216	53.8	46.4	45.6	44.6	44.6	47.0	40.3	38.8	35.7	31-7	34.6	36.2	30.6	33.8	30.6	43.9	41.3	36.0			• • • •
•	Manatee Mayport	27 27	82 35	. 15								'													
	Meade, Fort Merritts Island	27 46 28 22	81 50 80 41	8o																					
,	Myers, Fort Pensacola	26 38	81 46	50																					
1	Peirce, Fort Punta Rassa	26 30	82 00	30			96.5	46-8			58.1	54 • 4										,			1
١	St. Marks Sanford	28 48	81 23	25																	l		·		
1	Tallahassee Tarpon Springs†	28 10	82 45	200	'				• • • • • • • • • • • • • • • • • • •		¦				·····						` ₁				·
	Titusville Brooke, Fort	28 o	82 28	20		69.3	45.0	77.3	40.7	ļ	55.7	36.0	•••••	·		 		•••••	· · · · · · ·			;	•••••		· ··
1	St. Augustine Georgia.	29 54	87 18 81 18	25	33.9		1 50.2	30.9	77.5	٠٠٠٠٠٠	53.0	40.8	49-9	47.5								•••••	•••••		
1	Americus	32 03	84 14 84 23	362	·		! !		ļ					64.5		1	· · · · · ·	١	•••••						1
į	Athens	33 58	83 23	850	!	1	l			1	1							•			1				
i	Brunswick Carrollton	31 10	81 27																						
١	Forsyth (near) Gainesville	33 00	83 55	735 1, 227	ļ:::::		·····													`					· · ·
!	La Grange	33 02 33 05	85 of 83 14	742 310	i	'		' 		¦	·		· · · · · · ·	'										· · · · · · · · · · · · · · · · · · ·	
	Nashville	30 45	83 50	170			1				1														· · ·
	Rabun Gap	34 16	185 o8 .	1,900	1				٠٠٠٠٠٠	· · · · · · ·					'								•••••	·'•••••	• • •
1	Savannah Sparta St. Marys	33 15	82 54	567	43.9	54-8	48.8	44.5	51.4	45.5	51.9	33.4	53·3 63·1	63.7	60.2	55.7				ļ			· · · · · ·		• ••
	Thomson	33 29	82 25 80 52	517										'. <i>.</i>	1									· · · · · · · ·	• . • •
,	Walthourville Whitemarsh	31 44	, 81 38	92	30.0	49.8	45.7	41-3	37.4	40.8	38.7	30.8	52.5	45.7		`			•••••	· · · · · · · · · · · · · · · · · · ·		`			• ••
1	Idaho. Boise City	43 34	116 08	1 2,768	·			•••••						·	' 			·					·		٠٠
	Boise, Fort Eagle Rock	43 30	116 05	4,781						·:•••••				·				1					I		· · · ·
1	Lewiston Lapwai, Fort Sherman, Fort	46 18	116 54	2.000	1		·	1												14.1					
-	Indiana. Angola	41 36	185.00	1.052	1				١					1		1						1		1	• • •
1	Butlerville	39 04	85 33	509												'							40.8	30.2	- 4
1	Columbia City	41 09	85 30 85 56	863 632					ıı	. '		·	·						'••••• ••••	: • • • • • • • • • • • • • • • • • • •					• • •
i	Connersville Degonia Springs	38 00	87 12	445														` 							
1	Evansville Farmland	40 11	85 10	1,040			٠			· · · · · · · · · · · · · · · · · · ·		·	· • • • • •					١							
1	Indianapolis Jeffersonville	38 18	1 85 42	427							,		·												
1	Laconia Lafayette Logansport	40 28	86 54	667				· • • • • • •							· • • • • •						·				
1	Marengo	39 37	85 23								'	·		·	١			·				·			
i	Merom New Harmony	39 05 38 10	87 40 87 54	560 350		1		35.7	 , 48.0	1	23.3	39.8	48.6	44.3			37.4	46.5	32.5	33.6	45.3	39.1	37.5	36.9 34.9	3
1	Princeton Richmond	38 23	87 35 84 53	481 850		46.3	32.1	45. I	56.7	23.4		39.2	56. o	46.9	38.2	40.9	39.6	49.7	37.0	34. I	55.4	43.2	56.5	41.7	• ::
1	St. Meinrads Abbey Spiceland	39 48	86 45 85 18	1,025			ļ				`•••••	::::::		! • • • • • • • • • • • • • • • • • • •				'•••••	36.6	34.5	47.3		58.0	30.4	4.
1	Sunman Vevay Wayne, Fort	38 46	84.50	1,018 525			' · · · · · · · · · · · · · · · · · · ·			i			· · · · · · ·	'	' · · · · · ·			•••••			50.9		52.6	48-5	4:
,	Wabash Worthington	40 48	85 49	608						٠															
1	Illinois, Anna	37 30	80 18	625		 	• • • • • • • • • • • • • • • • • • •											٠٠٠٠٠							· · ·
i	Augusta Aurora	40 12 41 47	90 57 88 18	681 676					' • • • • • • • • • • • • • • • • • • •			28.7	51.0	44.9	•••••	•••••	32.5	54.0	30.8	36. I	42.0	39.1	39.3	27.6	
	Cairo	39 57 37 00	89 45 89 10	377	46.9	38.4	34.8	31.1	43.5	38.9	25.2		47.3			'									
, '		-0	0.00	408			'			1															
	Centralia	AI 52	87 28	66ı													• • • • • •				••••			22.4	3

869	187	70	Pentad mean.	1871	1872	1873	1874	1875	Pentad mean.	1876	1877	1878	1879	1880	Pentad mean.	1881	1882	1883	1884	1885	Pentad mean.	1886	1887	1888	1889	1890	Pentad mean.	1891
3.8	41.	2 '	48.6	45.0	49.2	46.5	48-4	46-4	.j		٠									38.0			4I-4 		47.I	47·2 47·7		49.2
		i.		53.3	40.3	50.3	47.0	43-4	45.1	54.3	47.9					48-2				45-3	47.1	52.3		00.0	03.1	49.0		, 52-0
	••••			43.2	41.4	57.9	51.4	38.0	46.4	60. a	45.6	30.0	37.8	33.0 87.8	44.4	25-5	36.1	33.8	35· I	ļ								53· I
• • • •			• • • • • •	50.6	52.6	49-9	47.7	44-9	49·I	45.9	47-3		•••••	, • • • • • • • • • • • • • • • • • • •		1	• • • • • • • • • • • • • • • • • • •	` 		1	•••••		•••••		· · · · · · · · · · · · · · · · · · ·	•••••		
4.0	3 6.	3	47.0	37.9	30.7	45-6	34.6	41.2	38.0	47-9	52.6	60. 1	33.0	38.7	46.5	42.2	46.8	45-8	49-9	44.8	45-9	-		1	1 - 1		1	
• • • • • • • • • • • • • • • • • • •	••••		· · · · · · ·					• • • • • • • • • • • • • • • • • • • •	· · · · · · · ·										55-7	76.7				63.0 57.8				
• • • •														82.2		53.0	, 66.9	33.5		66.3	53-5	50.6	34.6	43.2	43-5		' • • • • • • • • • • • • • • • • • • •	
•••	52.	3	• • • • •	61.2	57· I	60.7	48.2	57.6	57.0	55.3	50.6	60.3	47.0	65.5	55.7	54.7	53-2	53-4	54.8	82· I	59-6	54-9	58.7	53-3	46-2	47-7	52.2	41.3
•••			• • • • • •		 .			36 -5		37.0	18.1	49. I	58.4	33.3	43.4	53.2	41.8	48.3	22.2	34.2	42.2	20.0	43.6	52·4 35·5	55.4		40.0	
)-7																				67.2				60.5	`			
•••	••••		• • • • • •	· · · · · · ·			43.6	• • • • • • • •		' • • • • • •						40.0	• • • • • •		· · · · · · ·			50.4	40.8	58.9	43-4		51.8	
• • •	••••		• • • • • • • • • • • •					·¦·····	. '			80.5			1					1				`			54.8	
•••	••••			· · · · · · ·				· · · · · · ·													69.3	62.2 	52.2	61.9	52.8	47.0	55-2	35 ⋅5
•••					84.8	71.8	45.0	67.0		67.5	72.8	62. I	84-6			33.5		• • • • • • •										
•••	••••							· · · · · · · ·			· · · · · · · · · · · · · · · · · · ·				; ·		,	44.0	1			. 66.7	58.8	68.5				44.9
• • •								·				······			¦	·	· · · · · · · ·					100.0	57.4		92. 2 48. 8	97·1	,	60.2
•••			· · · · · ·			55.9	57-2		 .			125.6	127.2	91.0		93.4	92.3		79-9		47.6	57.2	45.4		62.6	61.2	į	49.2
•••				· · · · · · · · · · · · · · · · · · ·	·							31.3	47.2	45-2		45.8	56.2	30.0	40.0	30.0	47.0	37.3			; ;	'		
•••				54· I	43-9	51.3	60.7	54-3	52.9	34 • 4	46-8		50-4		1		58.3	51.4	52.8	56.9		50.7 53·4	50.4			42·7 56·2		50·1
•••	42.	I	 	53.5	55-4	48.5	57-1			46-4					47-I		49·7 53·4		45.0	40.8 77.1	46.0	46.0				43· I		47.9
 			 			' ·	55-5		 .				46.8	40.0		63-4	42. I 65. 6	53·7 53·9		56.3			56-4	63.5	 58. I	44.5	55.0	61.4
• • •								49-2 80-1		53.0	65.8	44.3	62.9 41.4	72.4	59.7			52.6 44.4	63.0	51.0		54.0	` 					
• • •			· · · · · ·			` : <u>.</u>		.' .:- <u>.</u>	· · · · · · · ·				51.5	44.9		42.1	38.5	36·9		56.2				67.2	44.6	47.4	51-3	52.0
• • •				• • • • • •			,	65.0		,			83.4	00 · I		78·0		49· I				63.2						37.9
•••								49.0					43·5 45·9		54.6		46. o 47. 3					40.4	35·7 44·7			47 - 4		44.8
•••		•••		64.6	39.1	50.9	41-1	43.9	47-9		60.9				¦	44.6	63.6	40.7	;				64.4					
•••		•••						34-4	73.8	1 - 2					' - -	32.2			45-4		¦		54.9					
•••	••••							·									33-4		43.4				¦			;·····		
 5- 7	15.	 9 .		25.8	17.9	17.7	15.1					10.3	17.4	10.6		13.3	14-3	15.3	21.1		15.3	12.0				12.6		
•••	••••											·		17.4		20.6	18.0 14.9		21.8	19.4	18.5			·				
.6 	13.	8 .	• • • • • •			10.3	1							18.5	19.2	1	IA. I	10.7	18.7	20.7	21.4				18. 3	24.7		26.0
	· <u></u>	٠					·				· • • • • • •			·	,				`	42.1		38.9	33-7	34-7	32.7	40. I	36.0	37.6
-						-		1				1		i		· · · · · · · · · · · · · · · · · · ·		i		f .		46 1	. 44 2	42.4	40. E	52.6	45.4	48.4
•••	••••	•••		•••••	•••••			• • • • • • •	• • • • • • •	•••••		•••••	•••••	,		54-1			37.0	36.6		44.6	35.0	38.1	33.5	46.3	39-5	43.5
•••												42.7	47.8	58.2		54.1	70.4	47-2	47.3	39.0	51.6	35.9	36.5 28.8	50.6	42.9	59.0 56.1	45.0 46.1	44.3
•••	25.		!	30.8	34.2	52.0	43.0	54.5	43.3	57 - 5	38. o	38.6	42.8	51.0	45.8	48-7	53.6	54.0	35.8	33·5 30·3	47.1	41.7	37·3	41.7 41.1	30.0 38.6	51 · 6	40-5 41-5	41.2 38.3
• • •	42.	2	43.4	44. 1	27. 2	44.2	27.6	47.7	42.2	40.0	20. 2	20.7	42.0	50.2	44.4	41.0	60. I	51.2	47.4	39.9	48.4	37.5	39-4	53.0	38.4	58-4	45-4	42.2
•••														41.5		43.7	46.0 46.3	42.8 48.3	37.8 38.2	38.8 43.5	44.0	34.6	26.8 38.0	33·4 34·1	34.0 36.4	42.5 52.1	34·3 40·5	36.6 38.0
•••	: : : :	••••	• • • • • •	· · · · · · ·		· · · · · · ·	' 				· · · · · · ·							54.6 53.1	36.2 80.5	34·7 58·5		44 · I 44 · 3	35.0 65 9	49·7 80·6	36.9 65.0	45-4 97-0	70.6	41-4
. 8 . 5	37	8 :	39. 1	27·4 31·0	30.8	32.3	41.0	· · · · · · · ·		42.0	40. Q	40.6	30.2	48.9	42.5	38.5	44.3											
• • •	••••		· · · · · · ·		· · · · · · ·														36.2	30.9 32.2		32.2 46.6	27.9 32.6	34·5 43·9	44·2 34·9	57 · 1	39.2	36.8
Ö	31.	·. ·	41.6	27.8	24-4	45.6	39-4	53.0 44.0	36.2	44.6	49.0 35.9	58. t 34.9	35.8	54.0 44.4	53·3 40·1	45.0 44.8	46.8	55∙5	32.8	33.2	42.5	38.7	35.2	37.5	39· I	44.1	38.9	
	35.	2	44-4	36.2	41.4	36.2	42.9	46.4	40.6	45.2	33.2	40.5	43-9	51.8	42.9	45.8	53.9	60.4	41.1	37.0	47.6	36.3	43.0	45.8	40.4	60.7	45.2	48.9
•••								· · · · · · ·			3	33.1	22.3	40.2		41.0	40.0	3	3/ ' 4									
• 5	33· 34.	7	38.7	40-8	3 0·3	43.4	32.1	47 · 3	38.8	47.8	47.9	39.5	25.5	31.9 44.5	38.5	87.6 45.9	42.1	46.6	36.8	30-4	42.2	32.6	36.1	34.3	31.0	37.5	31.5	38. 2
•••	••••				26.6	50.8	47.5	53.0	1	55.3	30.5	41.6	45.3	49.5	46.2	32. I	61.5	52.5	51.6	32.0	45.9	37.7	26.8	41.8	37.0	50.5	38. q	39.8
	23.			35-5	28.9	36.3	28.8	1.86	33.5	36.4	41.1	42.0	30.7	40.7 37.3	37 · 5	35·5 44·1	55· ī 41· 3	59.8 45.8	37·3 34·6	44·3 44·5	46.4 42.1	38.0 26.8	29. I	45.6 ±	40. 3 35. 0	52.8 32.6	30-9	35·5 26·5
-							•••••				· · · · · ·		•••••			•••••		33·7	36.7	40.2	•••••	34.8	34.9	44.8	34-9	33-5	36.6	31.1

Number.	State and station.	Lat. N.	Long. W.	Elevation.	1851	1852	1853	1854	1855	Pentad mean.	1856	1857	1858	1859	1860	Pentad mean.	1861	1862	1863	1864	1865	Pentad mean,	1866	1867	1868
	Illinois-Cont'd,	0 -	0 -	Feet.															-	1	-0-			-	
300	Elmira Geneseo	41 27	89 49 90 06	505	******										*****					2	38.0		34.4	24-4	34.8
302	Golconda Grand Tower	37 39	88 30 89 30	352							*****		*****							6.d				32.9	30.4
304	Griggsville Galesburg	39 43	90 44	650																					
306	Greenville	38 50	89 25	555	*****		*****				******					*****									
307 308	Havana	41 16	90 05 89 21	******										*****	*****	*****						******			
309	Lonisville	38 46	89 30 88 30																						
311	McLeansboro Manchester	38 07	88 35 90 34																						
313	Mattoon Mount Carmel	39 29	88 24	724	*****	*****		*****	*****	*****	*****		*****			*****	******					*****	*****	*****	
314	Marengo	42 15	87 49 88 37	842	56.9	42. I	45-2				31-4	37.9	50.2	29.9	29.8	35.8	35.7	41. I	25.6	24.0	37-1	32.9	39-8	27.9	44.8
316	Mt. Sterling Oswego	41 40	90 47 88 22	525 670	*****	*****			*****	*****	*****					******									
318	Palestine		88 48 87 45	500															36.7						
320 321	Pana	39 25	89 07 88 08	735 771		*****				*****	******			*****											
322	Peoria	40 42	89 36 88 40	475 600							26.0	30.6	53.4	30.1	34.2	34.9	30.3	48.3	32.1	31.0	37 - I	35.8	35-7	24.6	35-8
323	Rockford	40 54 42 15	89 05	732	*****			*****			*****		*****		*****	*****								*****	
325 326	Sandwich	41 31	90 38 88 32	528 690											50.2		68.6	70.4	50.4	38-3	34.3	52.4	36.2	40.0	34-3
327 328	Springfield	39 48	89 39 88 42	544 800	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****				*****	*****			
329	Winnebago Watseka	42 17	89 12 87 45	900					******	*****	*****		45.2	26.5	32.9		44.6			29.0	44.8	*****	38.9	26.6	35.2
330	Wyanet	41 30	89 45	750		*****				*****				******		*****					50.1		34-4	27.9	36.2
332	Arbuckle, Fort	34 50	97 22	T, 000	24-4	46.0	26.7	28-2	29-8	31.0	42.1	47-4		28. 1											
333 334	Reno, Fort	35 50 35 28	95 20 98 03	540	52.2	51.6	25.9	28-9	35.5	38-8			*****	******	*****	******	*****		*****	******		******			
335	Sill, Fort Towson, Fort	34 40	98 23 95 12	1,200				*****			******														
337	Washita, Fort	34 14	96 38	645	31.7	47-1	30.6	43-3	21.9	34.9	29. I	33.2			*****		*****			*****					
338	Afton		94 10																						
339	Albion	43 15	93 00	1,500	*****		*****		*****				*****	*****	*****	******	*****		******			*****			
341 342	Amana		91 55 93 38																						
343	Baneroft Brookville	43 20	94 15 91 55	1,170		*****								*****				******		*****					******
344 345	Bush Creek.	42 44	91 41																						
346	Burlington Cedar Rapids	41 58	91 07 91 40	768										*****		*****	*****	*****				*****			*****
348	Charles City	42 58	92 43 91 38	869				******			*****		*****		******	*****	*****						*****		******
350 351	Clinton Columbus City	41 50	90 10	630				******			*****			*****			*****			******	*****				52.9
352 353	Concord	43 06	93 36 95 50																			*****			
354	Cresco	43 22	92 07	1,855	*****			*****	*****			*****			*****					******	******				*****
355 356	Decorah	43 17	91 47	875											*****	*****	*****	*****			*****	*****		*****	*****
357 358	Des Moines	41 35	91 19	805							*****				*****							*****			
359	Dodge, Fort Dubuque	42 30	94 12	880 665		26.0		27.7	29.1			******	47+3		26.9	******	38.5	34.9	33-9	25.0	36.2	33-7	36.4	34.8	30.3
361 362	Dysart																								
363	Fairfield	41 01	91 57 93 34	940															*****						
365	Grand Junction	42 02	94 15	1,045		******		*****			*****		*****			*****									*****
366 367	Hamlin	41 45	94 53 94 50	******									*****					*****				*****			*****
368 369	Harvard	42 22	91 20							*****	*****														*****
370 371	Ida Grove	12 29	95 30 91 57																******						
372 373	Iowa City Keokuk	41 37	91 30	621	*****						*****		43-2			*****	47+7	45.4	33.0	46.1	45-1		44.8	44-3	42.7
374	Logan	41 39	95 47 91 28	900	*****		*****		*****	*****		*****				*****			30-2		*****		*****	27.9	******
375 376	Marshalltown	42 00	93 10	******		*****										*****	*****								
377 378	McGregor	42 13	91 11	880					40.2		38.7	30.0	52.2	32.4	32.9	37.2	37. I	52.1	36.1	25.0	38.2	37.9	40.3	30.0	31.6
379 380	Muscatine	41 26	91 37 91 05	729 586	74.5	59-4	44.9	23.6	31.1	46.7	41.9	34-9	58.5	35.8	25.2	39-3	44-2	52.9	26.7	32.6	34.1	38.1	32.8	32. f	40.9
381 382	Nashua * New London		92 30	981				******										*****	*****		*****	*****	******	*****	******
383 384	Nora Springs Onawa	43 09	93 00	600	*****																	*****			
385	Oskaloosa	41 18	92 36	750				*****		*****				******					*****			*****			
386 387	Sherman towns'p.	41 22	95 00	******				******								*****	*****								Secret.
388	Smithland	43 24 42 14	95 57	*****	*****	******	*****		*****					*****	*****		*****					*****		******	******
390	St. Ansgar	43 22	92 55	1,185									*****	******	*****	*****	*****				******	*****			*****
392	Van Horne Vanters Grove	42 00	92 04	******			*****		*****	*****	*****		******					*****			*****	*****		*****	
393 394	Washington	41 17	94 34 91 45	769	*****		*****		*****			*****	*****			*****			*****			*****			*****
395	Waterloo	43 16	92 24 91 29	6gr					*****	*****	*****					*****									******
397 398	Wesley	43 07	94 10	1,257		******					*****		******		*****	*****		*****			*****	*****	*****		*****
700	Kansas.																								
400	Atchison	39 34	95 12	973				*****		*****		*****			*****			*****		*****	*****			AL. I	61.6
			Evide																some						

369	1870	Pentad mean.	1871	1872	1873	1874	1875	Pentad mean.	1876	1877	1878	1879 -	1880	Pentad mean.	1881	1882	1883	1884	1885	Pentad mean.	1886	1887	1888	1889	1890	Pentad mean.	1891
3		: 			31.6	26.9	26.6		. <u>34</u> •5	35.0	31.6	24.9	32.0	31.6	38.9	37.5	·	i		İ			ļ	ļ	<u>'</u>		• • • • •
7	•••••	1		'						.' 		55. I	56. 3		40· I 41· 0	70.8	57.2	54.7	44.5	53.6	36.6	33.7	40.6		55.8 48.5	41.6 36.6	45- I
8	23.1		34.2																			29.4			27.9	34.9	25.9
					45.5	30.4	40-3	36.2	45.6	1 44.2				,		· · · · · · ·	54 - 2	66.6	48-5		50. 6		44.6	37.2			33.5
		·		i		1		30.3	37.3	33-3	31.9		1				,				27.4	28·2 38·7	42.8	31.3	30.9 38.0	38.9	35·7
• • •					•••••	, • • • • • •					- 5		.,			47.4	56.4	40. I	36.9		39.7	30-0	41.3	39.2	47.2 55.5	41.1	37.1
8	30.8	30.5	20-1	30.5			41-6		4.4	******* *******		` • • • • • ·	50.8		48.5	52.9	45.0	45-7	49-7	48-4	34.6	36.8	40.4		50.0	42.4	31-7 36-3
6															47·3							35·7 33·3	26.4		36.2		
	33.6	22. Y	34.0		41.0		43.4		30.7				43. I	39.0	39-1	41.3	38.7	36.2	35∙3	38- 1	30.0	28·2 23·6	27.4 30.3	28.5	34·8 31·9	29.8	31.8 35.5
•••										1			1				54 · I 36 · Q	41.5	37·9		39·9 45·9	35·3 53·0	38.8	38.0 42.8	49.8	40.4 50.8	37.1
	21.6	32.4	32. I	38.0	38.7	25· I	30.2.	34-8.	43.0	39-7	31.0	28.9	40.0	36.7	41.0	40· I	36.6	41.9	32.2	38.4	37.4	32. I 26. 9			35.2 25.1	36.4	28.9 32.9
	• • • • • •			· • • • • • • • • • • • • • • • • • • •		23.8	31.6		42.5	28. I	33-7	30.5	32.0	35-4	44.2	36.7	37.3	47.5			18.9		26.0	28.0	29·4 43·9		30.3
. 8	41.3		32.5	26.7 39.5	19-7	24.3	26.9	26.0	35.8 53.2										33-4	`• • • • • • • • • • • • • • • • • • •	27.7	38.4	35.3	41.8 31.3	,	• • • • • • •	32·7 36·2
		` 									:		31.0		56-4	58·2 43·4	49.0 51.0	43· I 44·9	38.6 48.5	49-1	31.6 34.3	25. 2 29. 8		33. I 25. 3	28.6 29.5		33·3 28·5
.2	27.2					,						' ,					' -	·	,	•••••	32.6	30.2	29.4	36.6	39·2 37·0	33.2	30.0
-				!		35.0	. 48.0	41.6	· · · · · · · · · · · · · · · · · · ·		¦		i			•••••	1	1		 I		••••			i		
-8	•••••					38.7	44.0	·····	35-3	46.9	36.6	33· 1	30-4	36.5	37.9					•••••		20· I	23.2	32.9	28 5	26. 1	
•••			19.6	25. 1	33-7	29.0	37 · 3	28.9	25.0	48.5	33.7	25.2	33.8	33.2	28. I	31.1			33. I		19.6	34.2	35.7	29.4	33.5	30.0	32.0
		·•••••							`		••••			1					•••••								
•••		¹		34-1	23.4	35-9	41.6		36.5 28.9	33.8	32.4 36.8	2 6. I	29.8	30.8	56.8	30.8	30.6	31.4						<u> </u>			
•••									27.7 43.6	29.4	38.7	19.2	20.7	27 . 1	39.6 43.1	24.2	23.4	28.8	18.0	26.8	16.5 23.0			25.0	28.0	28.2	34.1
•••					' '				37 · 1	33.0	32.8	29.1	30-1	32-4	51.1	33.0	32.9	30.0	33.3	36.1	22.7	27.2	32.4	23·7 13·6	29.3	25.8 24.8	29.8 26.3
						•••••,		ļ				32.0	41.4		40.2 38.8	32 · I	34 - 2	32. I	26. I 32. 5	31.4	17·5 24·7	25. I 30. 3	36.7				
		::::::					•••••	; ;	'					.'	41.2		30.9		44.9		26. I	32.6	36-6	30.1	36.3	32.3	33. 1
••••							`	••••	31.9	29-8	34.6	34.2	35.6	33.2	47.9	31.8	34 7	29.3	28. I			30.3	30· I			•••••	
3-8	28.1							;·····			37.7	27.1	32.7		41.2 38.1	39.7	38·8 40·7	37 · 3	38.0 34.6 18.7	38. 1		22.2		30.8	32.2		33.3
•••				32.8	27.8	.25.5	38.6		34.7	39.7	34·7 37·9	25.0			43-3	• • • • • •	18.0 45.5 34.8	46.5			27.9	23.5 26.5			35. I		28. 2
•••			30.6	36.5	28.2	36.7	32.0	32.8	46.8	35.0	31.3	33.8	42.7	37.9	37·0 40·5	36.7 34.1	34·6 35·9	38.3	34.5	36.2	23.0		40.5	37.6	26.0	31.7	31.5
••••										45.2	36.2		28 · 2 36 · 7		40.3 56.9	44·3 47·6	42.8	38.7 41.0	30.4					25.0	24.8	27.1	29.0
	25-1	33.7				30.7	35-4		30.9 50.3	40. I 39. I	30.9 38.1	24.8	24.4	30.2	42. I 55.4							· • • • • •			43.0		
• • • •	`\ 				1				• • • • • • • • • • • • • • • • • • •	35.0	32.8	30.7 26.1	41.7		49. I 38. 2	37.0	29.6	31.0	43.5	38.3	20.2	23.8	28.5	1		• • • • • •	
• • •			'						45.1	49·9 36·2	36.2	28.4	29.5	38.6	47. I 36. 7	42.0	37.5	39-5	29-4	39. I						•••••	
									40.2	20.2	27.1	20.4	22.2	28. K	49·3 39·5	24.4	27.2	i	24.0			20.0	1	1	1		
• • •			' • • • • • • • • • • • • • • • • • • •				• • • • • •					18-1	15.0	!	34·9 45·0	24.4	23.5 46.2	32·4 35·3	29.4	24.9	17·5 25·0	12.3 28.3	36.8	; <u>.</u>	 		
								• • • • • •				24.4	20.2		41.3	27 • 1	30.2	30.2				20.3					
). 0 > 6	30. I		25.0	47.5	34.5	39.6	48.2	30.3	43.2	30.7 43.9 48.6 45.1	38.9	28.4	33· 1	37.8 37.5	45.8	34·5 42·4	37·2 38·8	38.5	34.5		24 - 4	30.6	36.0	27.0	27.0	29.0	31.5
0	30.2	37.8	29. I	32.1	44.5	28·4 25·4	42.0	35-2	27·4 36.8	45. I 40. 0	46.6	22.5 33.6 22.2		36.0	1 50.0		37.0 43.3	37 • 2	35.2 41.0 28.4	41.8	29.0	22.3	34.0	29.9	35·5 34·1	30. I	35.3
										31.0		28. I	26. I		53- T	34- I	32. I 39. 0	33. I 36. 2	42. I 34. 0	38.9 38.0	25.5 26.2	33.5	20.2	23.0	30.8	30.8	28.5
). I	29.9	34-6	31.0	32.7	31.7	30.9	28.7	31.0	52.2	47-9	35-8	40.7 28.1	46.0 33.6	44-5	50.1 46.2	35∙5	35·9 40·3	37.8 40.1	40-3	39.9	29.3	33.8 27.1	34-7	30.3	44.2	33.7	27·5
· 5	24-7	34-8	36∙1	35.5	28.4	34.8	37.6	34.5	53.4	43.7	39.5	33.8 33.0	35.6 69.0	41.2	45·7 77·6	46.8 36.5	41·1 46·9	45·5 41·8	39. I 50. 6	43.6 50.7	31.1 25.6	28.3 43.8	38.8 26.8	33.5	31.9	32.7	
•••					'· · · · · ·				32.0	30.9	28.3	33.0	31.9 27.9	30.4	50.6	43.0	38.0 20.6	35.6	34.7	39.7	33.1	26.3	38.1				• • • • •
• • •	• • • • • • •	•••••	•••••	• • • • • •		• • • • • •	•••••		32.8	24.7	25.0	23.8	28.0	21.2	41.1	31.4	35-9		43.6				28.8		16.6		26.3
• • • •				· • • • • •					33.6	38.6	30.0 34.3	30.0	30.9	27.8 	46.7 39.3 34.1	25.7 32.9	32.5	42.5 31.2	33.2	33.8	21.7	19.3	30.3	'	23.4		
												19.1	17-7		42.0	17.5			28. I	!	21.1	20.3	27.2		 		
									43.9	39.7	33.8	30.3	43.3	38.2	51.4												
• 3			40.5	39. 8	27.8	•••••			30.7	45. 3	36.3	32.0				· • • • • •	•••••	36.5			21.1		41.1	27.0	22.7		28. 3
• • •									28·2 36·4	31.4	30.5	33.6	33.7	31.5 26.4	38-6 45-2 54-6	29. I	31.5	29.3 25.6	38.2	33.3	19.9	25.2 27.7	36. 2		/		
• • • •													23.5		54.61	30.4	25.7	24.7	29.5 18.2	33.0	22.5	30.2	40.7	14-5	27.0	27.0	
						· · · · · · ·						 .						20-6	24.3		26.0	21. (20.0	23.8	15.6	21.3	37.0
	42.6		34-9	44-1	35.7	40.3	38.6	38.9	43.9							•••••	•••••	39. I	34.4								

State and station	Lat. N.	Long. W.	Elevation	1851	1852	1853	1854	1855	Pentad mean.	1856	1857	1858	1859	1860	Pentad mean.	1861	1862	1863	1864	1865	Pentad mesn.	1866	1867	18
Kansas-Cont'd	0 /	0 /	Feet.	:					_													:		
Raxter Springs Collyer	·· 37 03 ·· 39 02	94 44	2,586			1								' • • • • • • '					•••••				· • • • • •	45
Council Grove	38 40	96 28	1,238	·				· · · · · · ·							••••							49.0	42.3	54
Cresswell Dodge City			2,512					:	· · · · · · ·	, • • • • • • • • • • • • • • • • • • •									· · · · · · ·					
Downs	39 32	98 25	1,488							• • • • • •										,				
Elk Falls Emporia			1 172	i	1 .		ì	i .	1	1			1	,		1			1	1		!		
Grainfield	39 06	100 29	2,811																			;		
Hays, Fort Holton	38 50	99 21	2, 107 1, 026			· · · · · · · · · · · · · · · · · · ·	'							 										ŢI
Independence	37 13	95 41	794		ļ																			
Larned, Fort Lawrence	38 58		840					1					1			30.8	!	33.6	20.8	36.6	26.6		18-7	
Leavenworth, Fo	rt 30 10	94 57	842	37.9	36.5	25-4	24.5	27.7	30.4	42.7	31.9	59.8	38.8	19-5	38.5	27.2	29.6	28.4	14.8	59.7	31.9	41.8	22.7	. 3
Le Roy Manhattan	30 12		1, 125			·							36. I	15· I	!	35.2	26.2	30.0	20.2	·			26. 2	. 3
Monument	39 06	101 01	3, 180			,																		
Ninnescah Riley, Fort		98 24	1,700			·	16.0	26. 2		24.0	18.1	32.0	22.6	15.4	22.8	21.8	20. 1	28.4	14.5	21.2	27.2	28.0	20. 2	1 2
Rome	37 09	97 24	1,216				٠														23.2			
Salina			1,225	23.0	46.5		•••••				·						• • • • • •	•••••	•••••				• • • • • •	• • •
Topeka	30 03	95 39	884		ļ				,		1													
Wakefield Wallace, Fort	39 07	97 04	1, 152	• • • • • •		• • • • • • •	•••••			• • • • • •						•••••	•••••	•••••	•••••			· · · · · · ·	• • • • • •	-
Wellington	37 16	97 26	1,219	,																¦		įi		
Yates Center Kentucky.	37 53	95 43	1,040		}		•••••		• • • • • •	. .					•••••	• • • • • • •		• • • • • •	• • • • • •	•••••				, j
Bowling Green	36 58	86 25	600		ļ					·														. ;
Chilesburg Frankfort	38 04	84 21	900 560			•	• • • • • •					42.4	47.7	36.8	•••••	47.6	47.3	46.0	41.0	60.3	48-4	51.2	53.0	5
Lexington	38 02	84 33	946	·		1			`		·													
Louisville Newport		85 45	530																		42.0			
Springdale			570	42.3	52.0	35-4	46.2	47.1	44.6	30.9	46.7	49.9	51.1	40.0	43.0	49.6	60.2	35·7 46·5	45.2	62.1	52.7	59.9	49.8	; 5
Louisiana.		1	82	ì	, -					1 -	1		1											, -
Baton Rouge	31 19		1	41.5	52.5	53.0	60.6	49.0	51.7	67.7	49.9	64.3	50.0											
Coushatta	32 00	93 14					¦					ļ			• • • • • •							·		
Delhi	32 28	91 26	02					·				l								ſ	1	1		
Liberty Hill	32 23	92 46							¦ • • • • •											• • • • • •				. -•
Mandeville Monroe					1	1		•	i		į.	i		į.						!	1			
New Orleans	29 58	90 04	52	50.3	43.9	8.16	52.9	42-0	50-2	67.0	47.5	60.7	49-4		• • • • • •							·		٠¦٠٠
Point Pleasant Shreveport	32 08	91 30	120							i			i		· · · · · · · ·									
West Melville	30 41	91 40				,			- -							• • • • • •					,		•••••	
Mains. Bar Harbor	14 22	68 12	50	1	١		· ·	l .			i 		l			<i></i> .			·		i		Í	.i
Brunswick	43 54	69 57	74	47.4	55.3		46.2	44-7		32.7	42.8	45.6	48.6						•••••					
Cornish Eastport	43 44	70 51 66 59	780								58.1	44.0	50.7	51.0		40.7	38.7	50.6	45· I	44-9	20.2	45.6	43-9	. 4
Gardiner	44 14	69 48	1 76	* KO O	40.7			20.2		28.0	46. T	4h.n	1 434. 2			40.2	20.2	40. E	AT.O.	41. %	42.2	45.7	47.8	4
Lewiston Lisbon	43 58 44 04		200											42.5		41.8	43.4	52.4	44.1	41.4	44.6	40.2	48.2	.ì ∡
North Haven	. 44 08	68 52	22					 .							'	'				'	1	1		
Orono Oxford			137			•••••	• • • • • •					• • • • •	••••	••••	• • • • • • •		• • • • • •	•••••		• • • • • •				٠,٠٠
Perry	45 00	67 05	100				51.3	51.9		49.3	59· C	36.3	61.8			47.1	44.6		45.8				ļ	
Portland Preble, Fort	43 39	70 15																						
Steuben	43 39	67 58	50													54 · I	55.0	54.3	49.3	47.6	52.1	54.7	62.4	5
West Waterville Maryland.			250	`- 	•••••		• • • • • •	•••••							•••••	• • • • • •	• • • • • •	•••••	34.5	37 - 4		44.9	42.9	4
Annapolis	38 58	76 30	20								51.7	38-7	51.6			54.1	52.6	45.0	42.2	57.8	50.3	60.4	63.9	5
Baltimore Cumberland	39 18	76 37	45	36.3	55-3		· • • • • •			j	••••	• • • • • •		•••••				•••••	`····	j				• •••
Emmittsburg	20 42	77 20			1	1 1		l	Į.	1	1		4					:		î			!	1 4
Fallston	39 30	76 24	300	•••••		•••••	· · · · · ·	•••••	•••••		• • • • • •	· · · · · · ·			•••••	•••••	•••••	•••••	••••			• • • • • •		• • •
Foote, Fort Frederick	30 40	77 24	400		48.0		33.0	34-1		30.6	42.4	47-4	47.8			33.7	36∙0			; •••••				.
McHenry, Fort	39 16	76 35	36	38. 1	51.5	36.0	59.2	29.3	42.8	22.8	38-3	45-9			• • • • • •		•••••		· • • • • • •			•••••		• • •
St. Inigoes Sandy Spring	38 10	76 20 77 00	500				• • • • • •													, • • • • • •			• • • • • •	
Schellman Hills.	20 25	77 00	700				40.2	53.9					56.2	59.3	'	46.0	47.3	63.6	41.6	46.0	48.9			٠١٠٠
Woodlawn Woodstock Colle	39 39 ge 30 10	76 04 76 51	400															, .	1	52.1		53.1	50.4	. 5
Massachusetts.				1				ł		1			1							1			i	1
Amherst Blue Hill(summi	t) 42 22	72 32			43.6			48.3	40.5	40.1	47.7	42.0	51.3	39.7	44.5	40.8	49-4	55.8	33.9	52.9	45.8	44.7	40.0	. 4
Boston	42 21	71 04	12	44.3	47.9	48.8	45.7	44.3	46.2	52. I	56.9	52.7	56.7	51.6	54.0	50-2	61.0	67.6	49.4	47.9	55.2	50.6	55.7	6
Cambridge Cotuit	42 22	71 07	60	42.1	40.4	53.9	45.3	47.7	45.9	53.8	57.9	45.0	59-4	45-0	52.3	50.4	57.1	50.4	39.5	43.0	49-4	33.7	41.8	3
Dudley	42 02	71 55	800			<u>.</u>																		٠٠.
Fall River Fitchburg			700				• • • • • • •									• • • • • •			· · · · · · · ·	33.0		51.5	42.5	. 4
Kingston	42 00	70 45	65																				45. ĭ	4
Lake Cochituate			140		48.0	55.8	43-2	34.7		40·8 58.6	56.6	45.7	49.2	55·4 34.8	51.4 47.8	30.4	49·0 38·6	55.5	30.2	49.5	51.3 41.2	38.0	50.4	
Long Plain Lowell	41 44	70 55	55		;															1.02.4			32.9	
Lowell Lunenburg	42 39	71 17	226	45.8	42.8	43.9	42. I	43.5	43.9	46. I	52· I	37.7	70-2	46.6	46-2	43,0	44·7	57.9	40.5	38.9	45.0 42. I	41.3	45.9	: 4
Mansfield	42 01	71 15	150	49.5																				, . .
Middleboro	·· 41 53	70 55	95																					
Nantucket New Bedford	41 30	70 56	100	41.8	41.1	35-1	47·5 47·8	36.4	42.0	32.0	38.5	42.3	48.9	38.3	40.2	44-8	41.4	44-5	39-4	44.5	42.9	38.6	45.6	5
Northampton	42 19	72 08	115				•••••											•••••			42.9			. ··
Plymouth Rowe	· 41 57	70 40	1.600						· #9 · · ·															
Salem	42 30	70 54	75																					
	41 47	71 08	1 40	1				1	1															

869	1870	Pentad mean.	1871	1872	1873	1874	1875	Pentad mean.	1876	1877	1878	1879	1880	Pentad mean.	1881	1882	1883	1884	1885	Pentad mean.	1886	1887	r888	1889	1890	Pentad mean.	1891
7. o	38. o		41.1	29.8	37.0	34-9	52.6	39-1	42.7	48-5		·	:	·			ļ			ļ				: :		·	
0.6	35.8	44-4	40-3	33.9	36.6	30-		• • • • • • •	39.8	48-0	40-7	26.4	24.4	28.0									7.3	•••••	10.0		
• • • •				,			., 10-8	• • • • • • • • • • • • • • • • • • • •	15.5	28.0	18.0	15.5	. 18.0 . 22.1	19.0	33.7	13. I 23. 3	28.4 31.4		23.9 31.6	25.9 27.6	19.3	15.8 26.1	23.0 13.7	19.1		17.8	32.5 42.8
••••											-3.3					30.2	52.8 35.2	44.6	58·4 36·7	34.0		26.9	34.8		22.9		26.8
 I. I	17.8		30.5	15.3	22.7	37.	32.0	27.5	36.9	30.5	36.1				35							22.7	23.8		13-3		32.5
	39-2		31.5		31.3	32.2	31.6	34. I	35.7	46.8	43.2			37.1		25·9 34·0	42. I 34-3	43.9	44-4	42.3	29.5		40.8	44.6	30.7	35-5	30.4
8.5			13.5		16.7	23.4	17.9	15.9	18.4	31.0 41.1		32.8			33-4	27.4	40-7	43.6	36.9	36.4	24.2		44-2	45.3	36.4	36.8	43-4
5·4 2·8	40.9		·, 40·8 ·, 38·2	43.6	35-3 32.0	33.8	31.1	36.9	44·5 34·6	52.0	35∙3	41.4	37.0	42.0	30.8	26. I		44.6	43.7	39.2	22.3	37 · 1	47.2	41.0	28.4	35.2	37.8
8.2	22.0		• • • • • •					28.0	45-7	43.9	39.2		29.2		29- I	27.8	36.3		24.0	30.9	30.9 10.5	30.4 19.1	31.3 15.9	19.3		29-3 15-7	27.7
11.9	24-0	27.7	32.2	31.5	24.3	15.	3 15-4	23.8	37.5	32.6	28.5	33.0	30.3	52.4	28.9	21.4	22.0	25.4	24.9	24.5	18.0 25.9	24.4	24. I 28. 5	30.3 39.0	22.2	23.8 27.4	32.4
							:: :::::			• • • • • • •					44.6		30.2 38.0	54.8			24.8		18.8	32.7	18-1	24.4	28.2
· · · · ·						: ::::								,			38.1		32.9	33-0	22.5	36.0 39.0	33·9 29·2	36.2	28.4	31.9	32.6
• • • • •	15.0					13.6			17.1				19-5	20.4	39.5	36.0	40.3			36. o		28.8	16.7 33.7	38.3	12.0 23.9	30-7	10-4
				· · · · · · · ·	: :::::	.	· · ˈ · · · · ·		· · · · · · · ·		¦		26.2		44-7	38.3	27.6	25.2		36-4		19.8 26.3	26·4 34·6	31·3 35·4	34.4	25. I 31.6	28.8
45. 7		50.2		·				·	ļ		·	ļ			ļ		ļ						48.6	46.3	63.0	•••••	51.1
		30.3	43.9	39.0		1 47.	46.6				; :						54.2	49.6	41.6		46. I	39·7	47·4 46·9	44-1 41-5	58·7 61·1	47.2	
12. 2	28. 5	38-4	48.1 35.7		45-7	43-6	53.2	33- 1	53.5	44.6	46.9	50.7	53.7	49-9	36.5	56.6	51.4	51.4	47.2	48.6	40-8	38. 1		35· I 37· 3	55.4	43-5	43.4
7.6			42.2					33.1													•••••					•••••	
			•	 		. 68.	70.6		54.1	76.0	! :		.!						55-8		89.0	50.9	54.0	42.4	76. I	62.5	53·9 56·3
			56.6	51.6																	44.5	4	41.9	44·5 44·5	61.2 54.9	46.6	50.8 35.7
										· · · · · ·			· · · · · · ·					71.0	60.7		59.9	47.7	50. o 45. 9	44.9	50. 5 57. I	50.6 48.3	52.8
• • • • •														.' 	 :	.'		63.9	50.8		51.9		72.2 46.9	34·7 43·4	43·1 66·2	51.6	46.1
			64.7					67.8		63.2 80.7	66.2 86.0	51.3	69.8	63.5		50. I		60.0			54.9	65.0	83.2	48.6		58-8	38.7
• • • • •				51.0	52·3	54.9	51.0		54.6	47.9				53-3	53.7	65.1	43.0	66.2	58.6	57.3	44·3 54·0	42·1 50·0	44.8 60.5	46. I 34. 7	40.5 58.7	43.6 51.6	36.0 53.6
••••		ļ	· • • • • •		.'				`				i				ļ		: •••••	·	42.4	52. I	57.1	42.6	52.2	49-3	47.0
52.0	49-3	47-3	48.5	42.0			53 5	34.5	36.4	43.6			34-2					52. 9	50. I	45.0	52.3	43.2	48. I	42.9	60.7	49-4	47.9
52.4	42.9	46.4	42.1	42.5	38.0	42.	5 45·4 5 47·4	42.5						49.2 46.0						55.0 45.0	48.4	46.9 54.6	53·3 54·0	42.2	45.2	45.8	36.4
57.1	42.4	49-2	54.0												• • • • • • • • • • • • • • • • • • • •		· • • • • • •		•••••		47.0	46.6	50.3	47.2	52.8		47.8
			41.5	48.7	30.4 40.8	46.	41.9	43.8	34·9 52·4		48.5	46.8	33.8	44-3	42.9	41.1	40.6	44-9	52.9	44-5	48. I	53· o	58-8	42.8	53.0	51.1	47 - 5
		,						· · · · · · · · · · · · · · · · · · ·	20. 7	43.4	28.6	47.6	27.6	40. 1	46.6	28.0	27.0	52.5	20.0	42.0	 ET.6	40.2	EO. 2	42. T	FT. 0	50.8	12.4
50.0											37.2		27.4		40.0	34.0	24.3	3-13	28.4				39.3		48. 1		36.0
7.8	39-1	¦ 45∙ I	42.2	1				40.6		35-3	47-4		•••••				;·····		•••••	••••			•••••		•••••	•••••	•••••
53-9	42.6	54.6	47·2	35.4			45.6	39.2	46.7	43.0	50. I	36.0	42.0				40.6	45.8	46. I	44.7	52.1	43.6	43.5	62.2	46.0	40.7	54.1
17.6	51.0		38-5		• 32•5	20.9	29.5		30.0	29.4	29.7	22.5	⊥ 33.9	29.2	29.4	45.0	32.4	35.2	20.0	33.8	32.0	33.0	41.1	40.0	52.5	39.7	40.3
• • • • • ;			42.0	42.4	54.7	41.1	44.7	45.0	51.0	57 - 1	49-3	35.2	42.2	47.0	43.0	43.0	49.6	45-2	50.6	46.5	60.7	46.4	51.3	6g.g	56.3	56.9	
 27 · 4	22.5	,	37-4	46.9	42.2	22.	36.4	37.0	39.8	29.8	39.2	28.0	32.6	33.9	34.4	39.8	41.8	42.3	43.4	40.3	47.3	35.6	41.1	51·9 66·4	44.6 37.5	45.6	45·7 48·5
• • • • •	•••••			88.5	7, 51-6 -,	46.8	43-4			48.5	52, I	. 45-3	40.7	:	42.0	40.0	41.2										
48.4	47-8	50.3	41.4	35.5	54-5	42.0	48. I	44-4					'	,			`•••••		• • • • • •				• • • • • •	• • • • • •	•••••	••••	• • • • • •
- 1					1	1	- 1	39.7	1			1	1			:	t					· 1	l		· i	ì	
						.'		45-4								' -		'		'	47. 1	A 2. 7	55.0	54.5	50.0	50.4	51.3
- 3	43.5	41.3	40.6	52.8	46.9	38.7	51.0	49· I 46· 0	47.6	44.9	54.6	38.0	35.3	44.1	47.5	40.9	32.6	47.5	42.8	42.2	46.4	45.7	56.9	43.6	43.8	41.6 47.3 47.0	42.5
••'	•••••					· · · · · ·										· • • • • •			33.9		36.3	42.7	54.4	33.2	44.7	42.3	36.2
3	30.6	43.5	34·3	41.7	39.2	32.7	41.9	38. o	38.4	37.4	45.2	40.9	32.2	38.8	34.1	32.6	29.2	37.3	35.8	33.8	45.7	55.2	59.7	45.7	52.0	51.7	45.9
7 1	55·7 48·2	57·7	45·5 42·1	48.6 43.5	45·4	36.0	45.3	44.2 42.2	48.4	43.7	53·5	37·9	35.8	43.9	41.0	40-3	31.4	45-5	43.7	40.2	47.2	41.6	56.6	50. t	51.2	49.3	46.6 40.1
				43.3				42.2	43.4	*3.3			33.4		·		· · · · · · ·		37.9		53.6	43.8	66.2	61.3	62.6	57.5	57.0
1	54.3	53.3	47.0	45.2	44-7	40.0	· • • • • •	• • • • • • •	•••••		••••		•••••	•••••	•••••	• • • • • •	•••••	•••••	• • • • • •	!	• • • • • •	54.1	65.2	50.0	EE.S	•••••	52.2
•			• • • • • • •	••••	• • • • • • •	• • • • • •	• • • • • •	· · · · · · ·	•••••	• • • • • •	• • • • • • •	¦	•••••	•••••	• • • • • •		•••••	• • • • • • •	••••	••••		45-3	58.7	51.6	53.9	•••••	45-7
>	47 · 1	46.8	48.6	46.8	49.0	53-2	49-4	49-4	41.6	45.5	50-3	42.3	39· 5	43-8	41.0	41.2	42.9	55.0	37·7	43.6	50.3 51.4	51.8	54.7	52.7 53.6	61·2 54·3	54 · 1 57 · 5	47.8 52.0
	••••							:														44.0	50.5	49.0	52.9		40.2
'						. '			' .			1									48. n	41.8	54.5	46.0	40. 5	48. O	42.0
, i	40.9	48.3	49.8	46.0	47·I	44.4	46.9	46.8	45.3	42.5	52.3	48.3	40.4	45·8	45.6	44-4	40.2	51.3	45.6	45-4	45.5			46.9	55.0		47. í

tate and station.	Lat. N.	Long. W.	Elevation	1851	1852	1853	1854	1855	Pentad mean.	1856	1857	1858	1859	1860	Pentad mean.	1861	1862	1863	1864	1865	Pentad mean.	1866	1867	18
fassachusetts—Con. Valtham	0 /	0 / 71 16	Feet.	40-7	42.2	45 7		40.6	47.0	47. 2		277.4	48.4	46.1	44.6		16.4	E2 6	26.5	25 6	41.7	42.6	47.5	-
aunton	41 54	71 05	30						:															• ••
hatchers Island Vestborough	42 16	70 34 71 33	208																					
estfield illiamstown	42 05	72 45 73 13	180		•••••	·	•••••	48.6	•••••	47.6	53 • 4	43. I	54.2	40.6	•••••	52.4	49.7	59.8	34.1	43-3	47.9	35.0	24. I	
oods Holl	41 33	70 40	: 35																'. <i>.</i>	· • • • • • •			`• • • • • •	
orcester	1 1	71 49		43-9																				45
lrian ma		84 11 84 37	1,240			'															•••••			• • • •
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troit	45 45	83 03 87 01	661	45.4	•••••	` '	46.6	71.3					29.0	28.2		38-4	31.4	30-5	25.8	21.1	29.4	31.6		• • •
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nsing tchfield Village .	42 44	84 26 84 46	841					·				.							28.4	29.9		39-5	24.5	2
ackinac, Fort ackinaw City	45 51	84 40	728	11.7	, .	37.1	35.5	33-8					22.4	21.6		••••								
arquette	46 34	84 40 87 24	590 673									38-5	42.6	25.7		39· I	30.2	35-5	22.4	26.0	30.6	29.8		
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nelling, Fort Mississippi.	44 53	93 10	820	23.4	15.0	. 20∙ 4	26.5	24.0	22.0	22.7	22. I													. 2
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arkville icksburg ater Valley assoo Missouri. ig Creek Divar oonville arthage enterville	31 34 34 25 33 30 32 22 34 10 32 49 38 56 37 35 38 56 37 12 37 27	91 27 89 20 88 48 90 53 90 26 91 00 93 30 92 45 94 23 99 35 92 12 93 50	264 450 369 244 116 1,000 603 992 765 840	43-3	43.4	51.8							48.0	20.9		28.4	34-4	24.8	26.5	61.4 	30.9	40.9	48-9	5
arkville icksburg /ater Valley asoo Missouri ig Creek olivar oonville arthage enterville hillicothe dina reenfield arrisonville ermann	31 34 34 25 33 30 32 22 34 10 32 49 38 56 37 35 38 56 37 12 37 27 39 40 40 10 37 25 38 38 38 38 38 38	91 27 89 20 88 48 90 53 90 26 91 00 93 30 92 45 94 23 99 35 92 12 93 50	264 450 369 244 116 1,000 603 992 765 840	43-3	43.4	51.8							48.0	20.9		28.4	34-4	24.8	26.5	61.4 	30.9	40.9	48-9	5
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tarkville icksburg /ater Valley asco Missouri ig Greek olivar conville arthage enterville hillicothe dina reenfield arrisonville ermann conton ansas Gity irksville exington ouisiana liami regon ierce City olla b. Louis	31 34 34 34 35 32 32 33 32 49 38 56 37 32 56 37 37 39 48 38 38 38 39 50 39 27 39 39 27 39 39 39 39 39 39 39 39 39 39 39 39 39 3	91 27 88 48 90 530. 90 93 36 90 93 34 90 93 34 90 93 34 90 93 35 91 93 93 12 93 93 93 93 93 93 93 93 93 93 93 93 93 9	264 450 369 244 116 1,000 603 992 765 840 914 919 975 466 6,100 1,200 1,150 1,150 1,150 1,150	43·3 45·6 46·8	43-4 43-4 38-1 47-1	23.1	21.1	40-7	33-7	30-3 36-7 42-5	22.2 23.3 33.3	39.6 43.2 68.8	48. o	20. 9 15. 6 23. I	28-3 37-1 48-3	28. 4 42. 3 41. 0	34·4 34·4 43·9	24.8 29.3 37.5	26. 5 25. 8 30. 2	61.4 40.2 58.3 42.2 43.4 46.9	30-9 34-9 37-3 41-4	71-3 40-9 58-4 33-4 42-7	48-9 44-9 21-5 44-7	34 3. 34 4.
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tarkville icksburg 'ater Valley azoo Missouri ig Creek olivar oonville arthage enterville hillicothe ddina crenfield arrisonville ermann onton ansas City irksville exington ouisiana liami reco liami reco tity olla t. Louis edalia helbina t. Charles t. Joseph	31 34 34 34 33 33 22 33 34 10 32 49 38 56 37 35 38 36 37 12 37 37 48 40 12 37 25 38 38 39 17 39 18 20 37 25 38 38 20 37 25 38 38 20 37 27 37 38 38 24 37 57 38 38 24 37 57 57 48 32 47 50 46 48 32 47 50 48 32 47 50 48 32 47 50 48 32 47 50 48 32 47 50 48 32 47 50 48 32 47 50 48 32 47 50 48 32 47 50 48 32 48 48 48 48 48 48 48 48 48 48 48 48 48	91 27 88 48 90 530. 90 26 91 00 93 345 94 25 94 25 94 25 94 25 95 37 96 37 97 97 97 97 97 97 97 97 97 97 97 97 97 9	264 450 369 244 116 1,000 603 992 765 840 914 919 710 975 466 640 1,200	43-3 45-6 46-8	38. I 47. I	23. 1	21.1	40.7	33-7	30·3 36·7 42·5	22.2 23.3 33.3 39.0	39.6 43.2 68.8	33-9 49-4	20.9 15.6 23.1	28.3 37.1 48.3	51-5 28.4 42.3 41.0	34.4	24.8 29.3 37.5 40.6	26.5 25.8 30.2 37.5	40-2 58-3 42-2 43-4	30-9	71-3 40-9 58-4 42-7 43-3	48.9 , 44.9 21.5 44.7	34 44 33 41 45

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47.3	39	-4	43·3 ••••	36-9	45-7	42.	5	32.4	40·3 43·4	39.6	43.7	45.5	55-3 42-4 58-3	32.0 42.2	31.8 49.3	41.9 44.7	37·7 41·0 64·3	32·9 37·4	34.8	51.1	42-3 35-9	37×0 40.0	47·6 49·4	46.0 51.9	57·6 59·9				45.6 47.8	500
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											40. I	47.6	46.1	39.2	41.2	42.8	37.5	39·2 33·6	36.3	40.0	33·7 40·5	38.1	37·4 32·2		29.6 28.0	32.6 28.5		33.8	34 5	517 518 519
33.0 47.9										27.5 35.2			32.0 40.5	26.8	43.8	34·1 42·4		32.9	48.5 42.4	36.3	35.0	37.5	28. 1	31.1	26.7	· • • • • • • • • • • • • • • • • • • •				520 521 522
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45-5	48	·9 ·	• • • • • • • • • • • • • • • • • • •	32.9	28.7	39.	9 ••[• ••[•	36-4	• • • • • •	35.1	37.1	31.5	39.9	27.6	38.7	35∙0		41.0	37.0	29.2			29.8	24.8	24.2	22.3	32.9	26.8	33.9	530 531
	•	• • • •	••••• ••••				•••		•••••				39.9		42.2		50-2	36.3	41.4		37.3	39·5		 						532 533 534
:::::	30	8	.	25.0	20.8						· · · · · · · · · · · · · · · · · · ·	33-1	35.2	32.8		١							'		38-7			30.5	35-9	535 536 537
31.5	25	.4	30.6		24.8 30. I	27.	3 '	27.6	19.6	22.7	18-1	29.3	35·9	19.7	28.2	25.6	37.6	28.0	21.2	25.8	20.0	20.0	22.2	28.5			24. T	29.0	20. 5	538 539
39· 5	31	3	34.7			. ' • • • • .	· · [•	• • • • •				· • • • • •	'		22.3	24.7	34.6 29.6	23.0	28.8	27.8	26.7		29.7	22.5	27·3 30·2 16·5	19.0 18.5 17.1		27.7	26.7 24.3	541 542 543
23.9	23	9	26.4	18.8	30.0	25.	 1	19.8	21.5	23.0	21.5				' !	• • • • • • • • • • • • • • • • • • • •	 						27·3		19.1	18.4	17.7	20.8	23.4	544 545 546
	29		••••	34.0	34.7	40.	…¦. •-¦.	37.6	28.2	35· I	19-3				 ::::::								33.6	22.7	28. 1	20·7 18·8	19.7		19.8	547 548 ~ 549
32-2	32	1	31.0	30.7	29.6	34.	6	35· 5	30-7	32.2	23.6	28.7		32.5	29.8	27.4	39·2 15.6	23. I 22. 4	26.5 17.9	26. I 21. 7	.25·3 16·5	28. o	22.9 15.2	25.9 18.5	25.8 17.2			23.0		550 551 552
34-9	26.		• • • • • • • • • • • • • • • • • • •	21.8	17.0	18.1	٠.;.	····					· · · · · ·		23.9	30.1	26.9	21.9	30.3	27.5	24.5	26.3	26.1	46.6	30.8		 ••••••	25.9	23.1	553 554
		• • • • •	 	· · · · · · · · · · · · · · · · · · ·		1	·· ···								`	'					42.9				•••••	35.8		49-5		555 556 557 558
59.6	50	6	55. 2	62.1	40.0	67.	2	61.9	65.8	• • • • • •	56.1	78.2	54-5	54 • 4	76.3	64.0	55-4	68.1	• • • • • •	· • • • • • • • • • • • • • • • • • • •	•••••	• • • • • •	•••••		55-8	• • • • • •	59.2		56.6	559
50.1		• • • •	••••		58.0	41.		66. 2	70.1		51.7	57.0	60.0	52.7	84 2	60.4	EL-0	77.5	62.7	72.8	47.9	62.8	48.7	36.7	47-1 56-7 48-5 51-5 55-2	43.0 45.3	60.7 55.1	48.5	57·3 61·1	562 563 564
39-1		• • • • •		' • • • • • • • • • • • • • • • • • • •			· · ·							32.3			,	71.3			34.3		56.9	42·7 38·5	51.5	39·3 36·8	58.5	49.8	42.0 53.5	565 566
39.1		• • • • •	••••				• • • • • •	••••	· · · · · · ·		28.0		32.0 33.6	22.2 29.6 29.4	27.8 32.0 34.4		36.6 40.5	39.8 39.0 55.8	39.0		45.6		45.0	35.4	······		32.7		, ,	567 568 569
		• • • •	••••				••;•							42.7	44.0		37.3	41.3	53·8 54·9	40.8 35.2 81.9	39·4 41·0 54·1	43-5	35·3 39·7 54·0	40. i 60. o	66.5	38.4	55·8 55·6	59-2	31·5 52·4	570 571 572
36.0		• • • • •	••••	· • • • • • • • • • • • • • • • • • • •		· · · · · ·	• • •	•••••	• • • • • • • • • • • • • • • • • • •	•••••			34.5	27·3 30·9	29.6 24.3	· · · · · · · · · · · · · · · · · · ·	36.0 39.1	33.6 29.6	28.7 36.7	33·4 38·3	42.6	34.9	32.8		34-7	42.5	29.1		34.6	573 574 575
••••		••••	••••	35.5		32.	 4 -	••••	 	 	45-7	37 · 3	38.2 41.2 28.1	33.1 42.8 34.9	31.8 50.5 39.2	37 · 2	34.8 44.8 36.2	46.1 46.7 29.2	26.2 56.6 43.9	46.4 46.1 42.1	40.0 43.2 49.5	38.7 47.5 40.2	34·2 35·0 19·1	31.3° 33.4 35.6	34-7 43-3 40-8 63-8	39·7 43·5 42·2	30.2 63.2 36.7	35·7 43·2 39·5	39.2	576 577 578
		'	'	۱									21.2	21.5			28.6	À1. I	25.2	30.4				25.8			23.5	1	26.8	581
41.6 41.2	27 29	6	32. I 38. 4	27.7 28.5	38.2 35.8	38.1 27.	ช 5 	20·2 32·4	34.0	33.0	42.0 41.4	44.0 41.3	40.2 34.1	42.0 38.8. 36.6	32.8 31.3 47.7	40.2 38.0	39.6 41.9 46.6	40.9 32.6 50.6	45.9 46.9 51.9	58.3 38.9 52. 0	42.8 29.6 49.0	45·5 38·0 50·0	31.3 30.3 40.0	33.3	54·9 40·1 48·7	47·4 33·5	25.2	32.5	39.9	582 583 584
																														585 586 587
••••		• • • •	••••			• • • • •	••••		38.5		43-7	57 · 3	29.0 35.2	31·7 44·2	31.7 27.3	41.5	37·7 41·5	39.2	36.3	3/·4 44·I	38.8	39.2	32.4	33.8	39.9 43.6 32.8	31.9	32.9 32.2 18.	32.8	31.1	589 590 591
	:	••••		•••••		· · · · · ·	••••		· • • • • • • • • • • • • • • • • • • •		· • • • • • • • • • • • • • • • • • • •		· · · · · · · · · · · · · · · · · · ·				15.0	13.0	15.0	25.5	33.3	16.1	11.5	33.3	14.1	9.8	9.9	12.8	17.3	502
	16	• · · · · · · · · · · · · · · · · · · ·		13.5	IA-2	10.	7 3 .	12.7			17.1	16.9	19-2	13-5	9·5 19·7	15.2	21.9	12.0	14.0	16.7	9.3	12.8	13-4	12.2	14-1	7.5	9.7	11.4		594 595 596
19.3			••••					19.7	19-5		18.6	15-7	21.4	21.1	30-с	21.4	17·3 20·1	19.6	16.4 11.0	22.0 19.3	32.6 11.1	21.6 14.4	12.7	14-1	10.2	6.6	8.7	10.5	19.4	597 598

Number.	State and station.	Lat. N.	Long. W.	Elevation.	1851	1852	1853	1854	1855	Pentad mean.	1856	1857	1858	1859	1860	Pentad mean.	1861	1862	1863	1864	1865	Pentad mean.	1866	1867	1868
203 204	Connecticut—Cont'd. Southington Trumbull, Fort	41 35 41 20	72 08	23									·						23.5	20.3			44-3		
205	Wallingford	41 27	72 40	133		1		•••••		•••••• }	 		41.7	56.9	41.9	•••••	48-8 ;	•••••		-0 0	52.6	•••••	51.1	51.2	51.9
207 208	Del. Breakwater Dover	38 48	75 10	40		!											·						•••••		
209 210	District of Columbia. Washington	38 45	75 ² 5								1	ŀ				i			45-2		ı	42.6	49-5	57.8	47-1
211	Morida.	26 45	81 33	1		1					1								i						1
212 213 214	ArcherBiscayne	25 53	80 07	77 12		55.6	54.0	20.5	24.2		24.5		54.2	51.6								•••••			
215 216	Jacksonville	29 12 30 20	81 OI 81 39	10										•••••					1	•••••					
217 218 219	Jefferson, Fort Jupiter Key West	26 57	82 62 80 07 81 49		52.8	46.4	45.6	44.6	44.6	47.0	40. 7	28.8	25.7	27.7	24.6	1	23.7	40.4	50.7	30-9	40.4	37.2		88.1	
220 221	Lake City Manatee	30 I3 27 27	82 40 82 35	216 16			43.0			,	40.3		79.6	75·5		30.2			30.0	43.9			;		
222	Mayport Meade, Fort Merritts Island	27 46	81 25 81 50	1 25	1	46.4	418. 2	E2 2			1				1	,							1		
224 225 226	Myers, Fort Pensacola	26 38 30 25	87 13	50	61.7	' 74. I	82.8	44.8	54.R	62.6	48. n	40. I	1			1	1		. '	' - -					
227 228	Peirce, Fort	27 30 26 30	80 20	30 13			96-5	46.8			58. 1	54-4					· · · · · · · · · · · · · · · · · · ·				·	•••••		<u> </u>	ļ
229 230 231	St. Marks Sanford Tallahassee	28 48 30 27	81 23 84 16	25 200												1									
232 233	Tarpon Springs† Titusville	28 10 28 34	82 45 80 51		· • • • • • •						· · · · · ·		••••	• • • • • •	•••••			• • • • • • •		•••••			' • • • • • • • • • • • • • • • • • • •		
234 235 236	Brooke, Fort Barrancas, Fort† St. Augustine	30 21	87 18	20	46.5	69.3	45.0 56.2	77·3 50·9	40·7 77·5		55·7 53·6	36.0 67.8	40.0	70.0	50. 1) 						•••••			
237	Georgia.	32 03	84 14	362												! '•••••				·	l				
238 239 240	Atlanta	33 58	83 23	850											1										
24I 242	Brunswick	31 10	81 27 85 04			' . .							1												
243 244	Gainesville	33 00 34 16	83 55 83 47	735			·												· · · · · · · ·						
245 246 247	La Grange Milledgeville Nashville	33 05	85 OI 83 I4 83 IQ	310		'														• • • • • •	·			!	
248 249	Quitman (near) Rabun Gap	30 45 34 59	83 50 83 22	170									ļ	· · · · · ·	•••••	,	•••••	•••••		• • • • •	•••••		· • • • • •		· • • • • • •
250 251 252	Rome Savannah Sparta	32 05	85 08 81 05 82 54	627 87	43-9	54-8	47.0	43·1	38.6	45-5	45.4	33.4	53.3	63.7	60.2	KR. 7				• • • • • •	••••	•••••	•••••	• • • • • • •	
253 254	St. Marys Thomson	30 44	81 34	517																		' • • • • • •			
255 256 257	Tybee Island Walthourville Whitemarsh	21 44	8r 28	02			١						 .					1	· · · · · · · · · · · · · · · · · · ·				·		
258 259	Boise City	43 34	116 08	2,768	ļ	•••••	ļ			•••••							·····	,			i			•••••	6.7
261 261	Eagle Rock Lewiston	43 30 46 23	116 05	4, 781	۱ 		' 				.'	' 				,								ļ	
262 263	Sherman, Fort	47 42	116 38	2, 198	1							·	·		,	;·····		1		14-1		•••••		,	
264 265	Angola	30 04	84 55	509	1																` 		40.8	36-2	44.6
266 267 268	Butlerville Columbia City Columbus	41 09 30 13	85 30	863						٠									· · · · · · · · · · · · · · · · · · ·						
269 270	Connersville	39 40 38 06	85 03 87 12	844 445							1	: • • • • • • • • • • • • • • • • • • •	l				`				•••••	• • • • • •			
271 272 273	Farmland	40 II 30 46	85 10	1,040					·							`									
274 275	Laconia	38 18 38 05	85 42 86 07	427 530		' 										• • • • • • • • • • • • • • • • • • • •			· · · · · · · · · · · · · · · · · · ·				43.2	45. I	45· I
276 277 278	LafayetteLogansport	40 45	86 22	600			·							·						·					
279 280	Marengo	38 24	86 24	363												!			32.5				` • • • • • ·		
281 282 283	New Harmony Princeton Richmond	38 23	87 35	350 481 850		46. 2	72. I	35.7	48.0	22.4	23.3	39.8	48.6	44-3	28.2	40.0	37.4	46.5	32.5	33.6	45.3	39.1	37·5	34-9	42.8
284 285	Spiceland	38 I3 39 48	86 45	1,025															30.0	34 • 5	47 · 3		58.0	30.4	45.7
286 287 288	Sunman Vevay Wayne, Fort	39 14 38 46	85 06	1,018						· • • • • • •		<u></u>		· • • • • • •			ļ				50.9		52.6	48.5	42.8
289 290	Wabash Worthington	40 48 39 09	85 49 87 0 0	698 540						¦	' ,			·			·····				·	· • • • • • • • • • • • • • • • • • • •			
29I 292	Illinois. Anna Augusta	37 30 40 12	89 18 90 57	68 r						1		28.7	5T.O	44.0			22.5	54.0	50.8	36. I	42.0	39.1	30. 3	27.6	45.2
293 294	Aurora	41 47 39 57	88 18 89 45	676 800	46.9	38-4	34.8	31.1	43.5	38.9	25.2		47·4 47·3	30.5				i					30-3	31.2	
295 296 297	Cairo	38 31 41 52	89 08	498				'																	
298	Collinsville Dubois	38 37	90 00	600						·				· • • • • • • • • • • • • • • • • • • •				· • • • • • • • • • • • • • • • • • • •					·		

869	1870	Pentad mean.	1871	1872	1873	1874	1875	Pentad mean.	1876	1877	1878	1879	1880	Pentad mean.	1881	1882	1883	1884	1885	Pentad mean.	1886	1887	r888	1889	1890	Pentad mean.	189t 	Nember
3.8 3.6	41 · 2 45 · 4	48.6	. 50.8 45.0 53.3	40.2	46.5	48. A		i		1														47. I	47.7		40.2	2
. 6	· • • • • • • • • • • • • • • • • • • •		43.2			51-4	38.0	46-4	60-9	45.6	39.9	37.8	33.0 37.8	44.4	25·5	36. 1	33.8	35-1		 							53-1	1
		••••	. 50.6 37.9	52.6	49-9	47.7	44-9	49· I	45-9	47-3	••••	•••••	•••••	•••••	•••••	•••••	•••••	40.0	44.8	45.0	 58. r	24.0	45.2	61.2	41.4	48.2	52.8	2
• • • •												·····					· · · · · · · · · · · · · · · · · · ·					68.8	63.0	56.5	49.0	,		2
				1.00	49-2	84.7								· · · · · · · · · · · · · · · · · · ·				55.7			•••••	`		• • • • • •	••••	'		:
••••	52·3		61.2	57 · I	60.7	48.2	31.6 57.6	57.0	49·5 55·3	60.9 50.6	65.0	62.3	52.7	` 58 ⋅ 1														
•••	29 . 5		. 25.5 	25.7	28.7					'				 									52.4	55-4	61.3		57.8	
 	,,,,,,	• • • • • • • • • • • • • • • • • • •	. 34·6	46-2	53.2	42-4								·			'		67.2		56.6	60.0		• • • • •	• • • • • •	• • • • • •		
•••		· · · · · ·	·		· · · · · · · · · · · · · · · · · · ·				· • • • • • •	! • • • • • •				53.3				51.6	77.6	53.0	56.4	40.8	58.9	43-4	59.4	51.8		
••••			· · · · · · ·									·							1					• • • • • •			• • • • • •	
••••			• • • • • • • • • • • • • • • • • • •	40-7	50.0	38.1	40.7		44.4	١	'			44-2										52.0	47.0	33.4	32.2	
••••				84.8	71.8	45.0	67.0		67.5	72.8	62. í	84-6		44-2			44-6	46.7	56.6	1	64-9					:::::		
••••			• · · · · · · ·	•				•••••		·	······				;		'	•••••	 		66.7 100.6	58·8 57·4	68-5 75-3	47·1 92·2	55.6 97.1	84.5		
••••		· · · · · · ·	• • • • • • •	47-4	55.8	57.2								· · · · · · · · ·					ļ			· • • • • • •	• • • • • •					
••••					33.3			•••••		52.9	51.3	57.6	67.4		45.3	56.9	36-8	40.2	58-6	47.6	57 · 3	45-4						
••••				43.9	51.3	60.7	54·3	52.9	34-4	46.8		47·2 50·4	45.2	1	45·8 61·9	58∙3	51.4	52.8	56.9	56.3								
•••	42. I	· · · · · ·	53∙5	55-4	48.5	57· I	54.8	53-9	46.4	54.0	46.3	41.0	47.8	47-1	54-8	49.7	39.9	45.0	40.8	46.0	46.0	45. I	59. 2 49. 8	49.2	50. 2 43. I	53·4 46·6	54·9 47·9	
• • • •			·			55.5	49-2					46.6	1 40 0	43.8	60 4	40 1	E 2 3		,	1					44.5	55-0	61.4	
••••		 	 				80.1	 	53.0	65.8	44-3	62.9 41.4	72·4 52·9	43·8 59·7	52.9 51.3	46·4 54·3	44.4	44.3	31.0	49.7	34.0							
			64.0	67.7			65.0	 RQ 1		67.2	64 0	51.5	44.9	59-8	42.1	38-5	36∙9	ļ	56.2		45.8	51.5						
••••				·								83.4	66-1		78. o	60-6	49. I	i	1		03.2							
••••									• • • • • •							47 · 3	48-4	50.5	73.9	51.6	42.7	44.7	46.9	47.6	47-4	45-9	44.8	
•••	· • • • • •		. 64.6 -			• • • • • •						31.9		,	44.6			`									•••••	
••••	· • • • • • •	· · · · · · ·	·			1	34.4	73.8		50.7			48-4	`		35-4	36-5	45-4	68. 1	43-5								
••••						ĺ	i				10.3	17.4	10.6	·	13.3	14.3	15.3	21.1	12.6	15.3	12.0	11.1	11.0	10.0	12.6	11.5		
-7	15.9		· 25·8	17.9	17.7	15.1				• • • • • • • • • • • • • • • • • • • •			·		21.3	18.0	· · · · · · · · · · · · · · · · · · ·					•••••		8.2	11.8		13.4	
.6	13.8	· · · · · · · ·	21.3	15.9	10.3	13.5	19.9	16.2	21.3	19.0	15.3	21.9	17.4	19.2	20.6	18.2	19.1	21.8	19.4	18.5				18. 2	24.7		26.0	
			•				i .			•				1		i							- 1					
.9	33.5	38-4	38.5	41.5	32.1				•••••		•••••							• • • • • •			46. I	44.2	43.4	40.5	52.6	45-4	48-4	
••••			• • • • • • •					• • • • • • • • • • • • • • • • • • • •			•••••	•••••				•••••		37.0	36.6		44.6	34.2	34·7 38·1	30.5 33·5	43.5	39-5	43.5	
	· • • • • • •					· · · · · · · · · · · · · · · · · · ·					42.7	47.8	58.2		54. I	70.4	47.2	47.3	39.0	51.6	35.9 54.8	36.5 28.8	50.6 46.2	42.9	59.0 56.1	45.0 46.1	44.3	
• • • •	25. I	• • • • • •	30-8	34.2	52.9	43.9	54.5	43.3	57 · 5	38.9	38.6	42.8	51.0	45.8	48.7	53.6	54.0	39.9	33·5 39·3	47.1	39.8	37·3	41.1	38.6	54.9	41.5	38.3	
	43.2	43-4	44. I	37.3	44.2	37.6	47.7	42.2	49.0	30.3	30.7	42.0	50.2	44.4	41.0	60. I	51.2	48.5	40.5	48-4	37.5	35.6		• • • • •	• • • • •	• • • • • •		
			·										41.5		43-7	40.3	48.3	38.2	43.5	44-0	41.9	38.0	34. I	36.4	52· I	34·3 40·5	38.0	
			<i></i> .														53· I	80.5	58.5		44.3	65. a	8a.6	65.0	97.0	70.6		
			27.4 31.0																30.9		32.2	27.9	34 - 5	44.2	57 · I	39.2	30.0	
••••	• • • • • •		27.8				53.0	26.2	44.6	49.0	58. I	60.9	54.0	53.3	45.0	67.0	• • • • • • • • • • • • • • • • • • • •	36.2	32.2		46.6	32.6	43·9	34.9			• • • • • • • • • • • • • • • • • • • •	
. Q	35-2	44.4	30.2	41.4	30.2	42.9	40.4	40.0	45-2	33.2	40.5	43.9	51.8	42.9	45-8	53.9	00.4	41.1	37.0	47.0	30.3	43.0	45.8	40.3	60.7	45-2	48.9	
••••		· · · · · · · ·	., 28.3	31.7	45.0	27.2				46.6 31.1	16.9 35.7	33.9	40.2		41.0	35·9 40·3	41.7 51.6	35·4 37·4	43-3	•••••	41.9				• • • • • •		•••••	
••••	• • • • •	• • • • • •	• • • • • • •	•••••					• • • • • • •	•••••	• • • • • • •	• • • • • •	•••••	•••••	•••••	• • • • • •	53.7	44-9	43.1	•••••	43.7	35∙5	39.1	41.8	52.7	42.6	44.0	
.5	33.7	38-7	40.8	30.3	43-4	32.1	47 · 3	38.8	55·3 47·8	47.9	39·5	25.5	31.9	38.5	45-0	50. I	46-6	52·7 	39-4	42.2	12.6	36-1	24.2	27.0	27.5	31.5	18. 2	
																			'		'		'					;
	23.0		35.5	28.9	36.3	28.8	38.1	33.5	36.4	41.1	42.0	30.7	40·7 37·3	37 5	35·5 44·1	55. I 41. 3	59.8 45.8	37 · 3 34 · 6	44·3 44·5	46.4 42.1	38. o 26. 8	29. I	45.6 30.9	40. 3 35. 0	52.8 32.6	30.9	35·5 26·5	:
	21.6	41.8	26.0	28.7	52.7												33.7	36.7	40.2		34.8	34.9	44.8	34-9	33.5	36.6	31.1	

,	State and station.	Lat. N.	Long. W.	Elevation	1851	1852	1853	1854	1855	Pentad mean.	 1856 	1857	1858	1859	1860	Pentad mean.	1861	1 862	1863	1864	1865	Pentad mean.	1866	1867	18/
_	Connecticut—Cont'd.			Feet.					-										!					1	
;	Southington Trumbull, Fort Wallingford	41 20	72 08	294 23 133							······		41.7	56.9	41.9	· · · · · · · · · · · · · · · · · · ·	48-8		23.5	20.3	52.6	•••••	44·3 51·1	49· I 51· 2	54 51
	Delaware. Delaware, Fort	39 35	75 34	10	·		: ;•••••	,	39-5	· •••••	31.4	26.0	17.1	l		· · · · · · ·	ļ		· • • • • • • • • • • • • • • • • • • •	38.0	50-9		••••		.!
1	Del. Breakwater Dover Milford	39 10	75 30	40		•••••					1			•••••										· • • • • • • • • • • • • • • • • • • •	
, 1	District of Columbia. Washington			115		40-4	33-5	31.7	29.7		33.4	41.3	39-5	42-4	37.5	38-8	43-5	39. I	45.2	36.4	48-7	42.6	49-5	57-8	47
	Morida. AlvaArcher	26 45	81 33	15										ļ		· { • • • • • •	•••••		: :•••••	ļ	•••••		••••		
1	Biscayne Cedar Keys	25 53 29 08	80 07	12		55.6	54.0	39.5	34.3		34.5		54.3	51.6	·										.'
	Daytona	29 12 30 20	81 OI 81 39																						
,	Jefferson, Fort Jupiter	26 57	80 07		53.8												23.7	40-4	50.7	30.9	40-4	37-2		88.1	28
i	Key West Lake City Manatee	30 13	82 40	27 216	53.8	40.4	45.0	44.0	44.0	47.0	40.3	38.8	35·7 79·6	75.5	34.0	30.2	30.6	33.8	30.0	43.9	41.3	30.0			
,	Mayport	30 24 27 46	81 25 81 50	15 80		46.4	•18.3	52.2	'														·	• •••••	· ••
	Merritts Island Myers, Fort	26 38	81 46		61.7	74.1	92.8	44 8	- A Q	. 60 6	40 0	40 T	i .	1		1	4	1		1			1	1	
	Pensacola Peirce, Fort Punta Rassa	27 30	80 20	30		l::::::	96-5	46.8			58. 1	54 • 4		ļ	•••••			,		;	ļ		••••	· • • • • • • • • • • • • • • • • • • •	.'
1	St. Marks Sanford	30 10	84 12	15						1															
	Tallahassee Tarpon Springs †	30 27 28 10	84 16 82 45	200			' <i></i> .	1																	
i	Titusville Brooke, Fort Barrancas, Fort †	28 0	82 28	20	i	60.3	45 0	77 2	40.00			a6 a	j .								i				
1	St. Augustine Georgia.			25	46·5 33·9		• • • • • •			• • • • • •		40.8	49.9	47.5	• • • • • •				• • • • • • •	•••••			••••	• • • • • • •	• ••
	Americus	33 45	84 23	1,050	ļ			1						64.5	' <i>-</i>	1									
	Athens	33 58 33 28	83 23 81 54	182					' • • • • • • • • • • • • • • • • • • •								' • • • • • • • • • • • • • • • • • • •	••••							• • •
	Brunswick Carrollton Forsyth (near)	33 36	∣85 o4	14		• • • • • • • • • • • • • • • • • • •		`	l::::::						' • • • • • • •					·	• • • • • •		'••••		: :::
:	Gainesville La Grange	34 16	83 47	7 000			1			1	4						i						1		
ĺ	Milledgeville Nashville	33 05	83 14	310						•••••	•••••		• • • • • •		•••••										• • •
,	Quitman (near) Rabun Gap	34 59	81 22	170 1,900		` 			;			ļ::::::			·			'				i		· · · · · · · · ·	
i	Rome Savannah Sparta	32 05	8r os	. 627 87	43.9	54-8	47.0	43· I	38.6	45-5	45-4	33.4	53·3	67 7	60.0	RR 7			'	; · · · · · ·	•••••			·	: ::
,	St. Marys	30 44	81 34	517		•••••			3		31.9	39.3		,					i						: ::
1	Tybee Island Walthourville	32 00 31 44	80 52 81 38	29				·		· • • • • • •			•••••			,						1			• ••
	Whitemarsh Idaho. Boise City	32 03	81 02	20	30-0	49.8	45-7	41.3	37 • 4	40.8	38-7	30.8	52.5	. 45·7				· · · · · · · · · · · · · · · · · · ·	1		•••••	; · · · · · · ·	••••		• ••
1	Boise, Fort Eagle Rock																								
	Lapwai, Fort	46 23	117 00	2,000	· :::::	· · · · · · · ·								٠٠٠٠٠		· · · · · · ·				14.1	• • • • • •				
-	Sherman, Fort Indiana. Angola	47 42	116 38	2, 198						•••• 	ļ	`		, · · · · · · ·	1				•••••	ı	•••••				· . • •
	Aurora	30 04	84 55	500												. ' .							40.8	30.2	14
	Columbia City Columbus	41 09	85 30 85 56	863				1					·	·	• • • • • •					·				 .	
ì	Connersville Degonia Springs	⊣ 38 06	87 12	445	·····					1		·													
	Evansville Farmland Indianapolis	40 11	85 to	1.040				'		1		1	1											1	
	Laconia	38 18	85 42	427 530		' 	:	· · · · · ·					· · · · · · ·	'			'						43.2	45. I	
ì	Lafayette Logansport	40 45	86 22	600	`·····	1	' • • • • • •		١											1					
1	Mauzy	38 24	86 24	363	1	1																	·		
1	New Harmony Princeton	38 10	87 54	350 481				35.7	48.0		23.3	39.8	48 6	44-3	•••••		37-4	46.5	32.5	33.6	45 ·3	39.1	37 · 5	34-9	3. 4:
1	Richmond St. Meinrads Abbey	39 51 38 13	84 53 86 45	000																					
٠	Spiceland Sunman	39 48	85 18 85 06	1,025									· · · · · · · ·						30.0	34.5	47.3		58.0	30.4	
1	Vevay Wayne, Fort Wabash	41 05	85 07 85 49	815			·					1						1		 .					
	Worthington Illinois.	39 09	87 00	540			i			1		ı								i	•••••	•••••	••••		
•	Anna	40 12	90 57	186			·					28.7	51.0	44.9			32-5	54.0	30.8	36. I	42.0	39.1	39.3	27.6	45
	Aurora	39 57	89 45	800 277	46.9	38-4	34.8	31.1	43.5	38.9	25.2		47·4 47·3	30.5				•••••	•••••		•••••		30.3	31.2	• • • •
	Centralia	38 31	89 08	498 661				i								•••••	•••••			•				22.4	36
	Collinsville Dubois	38 37	90 00	600				1		' .				· • • • • • •				••••							

869	1870	Pantad	mean.	1871	1872	1873	187	74	1875	Pentad mean.	1876	1877	1878	1879	1880	Pentad mean.	1881	1882	1883	1884	1885	Pentad mean.	1886	1887	1888	1889	1890	Pentad mean.	189t	Number.
. 8 l- 6	41·2 45·4	2 ' 4	8.6	45-0	49.2	46.5	, 48⊷	4 .									42·3 48·2					36.9 47. I			53·2 60·6	47·I	47·2 47·7 49·6		49.2	2 2
	• • • • •		• • • •								 				33.0		25.5	36. 1	33.8	35.1	 	,								, 2 2
•••				43·2 50·6						46.4 49.1	60.9 45.9	45.6 47.3	39.9	37.8	37.8	44.4										•••••		•••••	53. 1	2
.0	36. 3	3 4	7.0	37-9	30.7	45-6	34-	6 ' 4	41.2	38.0	47.9	52.6	60- 1	33.0	38-7	46.5	42.2	46.8	45.8	49-9	44-8	45-9	58- 1	34-9	45-2	61.3	41-4	48-2	52.8	, 2
•••	•••••				·			•		·····						. - • • • • •	· · · · · · · · · · · · · · · · · · ·	·		55-7	76.7	· · · · · · · ·	65.4	68.8 53.3	63.0 57.8	56-5	49·0 47·7	•••••	•••••	2
;	• • • • •	• • • •	• • • •							••••••			89-1 65-0		82.2 52.7	58.1	53.0	66.9	33 ·5	47.8	66.3	53-5	50.6	34.6	43.2	43-5		•••••		. 2
•••	52·3 29·5	3 · ·		61.2 25.5	57 · I	60.7	48.			57.0				47.0	65.5	55.7		53-2	53-4	54.8	82· I	59.6	54-9	58.7	53.3	46.2	47.7	52.2	41.3	2
•••	71.1		••••	34.6					36·5	33.7	37.9	38-1	' 49-1	58.4	33.3	43-4	53.2	41.8	48-3	33.3	34-2	42.2	29.9	43.6	52·4 35·5	55·4 52·8	61.3 42.9	40.9	57·8 39·6	, 2
-7	• • • • •		••••	· • • • • • • • • • • • • • • • • • • •	40.2	53.2	42.			· · · · · · · · · · · · · · · · · · ·	40.8	58.0	57.0	44.2	68.6	53.3	40.0	54-4	42.0	51.6	67.2 77.6	53.0	56.6	60.9	60-5	52.5				
• • • • • • • • • • • • • • • • • • •	 		••••	· · · · · · · · ·			43		44.3		42.0		80-5			33.3		42. I	41.2		61.2	49.5	56·4 60·9	40.8 57·3	58.9 48.2	43·4 58·0	59·4 49·5	51.8 54.8	48. I	
•••			• • • •		:									!	61.4		86. r	72· I	61.7		64-5		62.2				47.0		35∙5	
•••		• • •		•••••	40.7	59 · 9			40·7		44.4	39.0		46.2	39.6	44-2	33-5	34.6	• • • • • •		· · · · · · · ·		:::::			· · · · · ·				' 3
•••			• • • •			71.8	45.					72.8	62- I 			1			44.6	46.7	56.6		64·9 66·7	58.8	68. 5	47-1	55.6	59·3	44.0	
• • •			• • • • •									¦												57.4		92.2	97 · I	84.5		. :
•••					47.4			2					125.6	127.2	91.0		93.4	51.3 92.3		79.9			. .			62.6				
•••		• • •	• • • •	•••••	•••••	 	· ····	•••	•••••		•••••	52.9	51-3	57.6	67.4		45-3	56.9	36-8	40.2	58.6	47.6	57.3	45-4	•••••	•••••	 	•••••	•••••	
• • •				54-1	43.9	51.3	60.	7	54 ⋅3	52.9	34-4	46.8		47·2 50·4	62.8		61.9	58·3	51.4	52.8	56.9	56.3	50.7		65.0 59.2		42.7	• •	50- I	
•••	42. I		j	53.5	55-4	48.5	57	1 5	54.8	53∙9	46.4	54.0	46.3	41.0 50.1	47.8	47· I	54 8 34 3	49·7 53·4	39·9 46·2	45·0 50·7	40.8 77.1	46.0 52.3	53·4 46·0		49.8		56.2 43.1	46.6	47.9	
			'					5 4	49.2		43.3	41.4	34.0	46.8	49.9	43.8	63.4	42. i 65. 6	53·7 53·9	51.6	56.3	57.0	52.3	56-4	63.5	58.1	44.5	55· o	61.4	
• • •			• • • • •		· · · · · ·				80. I	• • • • • •	53.0	65.8	44.3	62.9 41.4	72·4 52·9	59.7	52.9 51.3	46·4 54·3	52.6 44.4	44-3	51.0		54·0							
• • •			• • • • •	64 0				· · · ·	•••••	58-1	 60.0	61.2	64 0	51·5 46.7	44·9 66·0	59.8	42. I 52. 3	38.5	36·9		56.2				67.2	44.0	47-4	51.3	52.0	
• • •									••••					83.4	66·1		78.0						63.2		54.8		30.1			
•••				61.8	63.9	48-2	57	4 4	49.0	56.1	64.7	59· 5	52.6		50.2			47.3		50-5	73.9	51.6	42.7		46.9	47.6	47-4	45-9	44.8	:
 				64.6	39. 1	50.9	41.			47.9			51.3	31.9	43-4		44-6	62.6	40.3					64.4 54.9					· · · · · · ·	. ;
• • •			• • • • •		• • • • • •	٠٠٠٠٠			34 · 4	73.8		50.7		52.7	48.4		32.2	35-4	36.5	45-4	68. I	43 ·5							•••••	
•••							j		;				10.3	17.4	10.6		13.3	14.3	15.3	21.1	12.6	15.3	12.0	11.1	11.0	10.0	12.6	11.5		1
• 7	15.9		• • • •	25.8	17.9	17.7	15.	1	• • • • •	· · · · · ·		• • • • • •					21.3	18.0						:		8.2	11.8		13.4	i
6	13.8	3	• • • •	21.3	15.9	10.3	13.	5	19.9	16.2	21.3	19.0	15-3	21.9	17.4	19.2	20.6	14.9	15.8	21.8	19.4	18.5								
•••			• • • •		•••••								;			 		14-1	19.7	18.7	42.1	21.4	28. o	22.7	34-7	22.7	40.1	36. o	27.6	
. 9	33-5	3	8-4	38.5	41.5	32.1																	46. ī	44-2	43-4	40.5	52.6	45.4	48-4	:
• • •			• • • •		•••••		· · · · ·	••••	• • • • • •	•••••				:					•••••	37.0	36.6		41.8	34.2	34·7 38·1	30. 5 33· 5	43·5 46·3	39 5	32. I 43. 5	,
•			• • • • • •		• • • • • • •	•••••		••••	• • • • • • • • • • • • • • • • • • •			· · · · · · · · · · · · · · · · · · ·	42.7					70.4	52.0 47.2	47.3	35·5 39·0	ET. 6	35.9	40.8 36.5	50.6	42.9	42·3 59·0	45.0	41.2	
	25. I		• • • • • • • • • • • • • • • • • • •	30-8	34.2	52.0	43.		54. 5	43.3	57.5	38. o	38.6	47.8	51.0	45.8	48.7	53.6	54.0	35.8 30.0	33.5	47-1	41.7	37·3	34-7 38-1 48-2 50-6 46-2 41-7 41-1 53-6	30.0	51.6	40.5	41.2	
4	43.2	43	 3·4	44.1	37.3	44.2	37.	6 4	47·7	42.2	49.0	39.3	39.7	42.9	50.2	44.4	41.9	60. I	51.2	47·4 48·5	39-9 40-5	48-4	37·3 37·5	39·4 35·6	53-6	38.4	58-4	45-4	42.2	
• • • •			'	• • • • • •	• • • • • • •			••••	••••						41.5		43.7	46.0 46.3	42.8 48.3	37.8	38.8 43.5	44.0	34.6	26.8 38.0	33·4 34·1	34.0 36.4	42.5 52.1	34·3 40·5	36.6 38.0	
	22 6	• • • •	• • • • •		•••••		• • • • • •	••••	••••		•••••								54.6 53.1	80.5	34·7 58·5	•••••	44.1	35.0 65 9	33·4 34·1 49·7 80·6	36.9 65.0	45·4 97·0	70.6	41-4	
5	37.8	39	9• I	31.0	30.8		41.	9	'		42.9	40.9	40.6	39-2	48.9	42.5	38.5	44-3		·	36. a		32.2	27.0	34·5 43·9	44.2	57. I	30.2	36.8	
• • • •			••••						53.0		44.6	49.0	58. ī	60.9	54.0	53.3	45.0	67.0		36.2	32.2		46.6	32.6	43.9	34.9				
. O	31.0	4	1.6 	27.8	24-4	45.6	39.	4 4	44.0	36.2	49.7	35.9	34.9	35.8	44-4	40.1	44.3	16.8	55.5	32.8 36.8	33·2 40·8	42.5	38·7 46·7	35·2 41·5	37.5 40.8 45.8	39· I 40· 4	44.1 46.9	38·9 43·3		2
· 9	35-2		4·4	30. 2 28. 3	41.4 31.7	30.2 45.0	42. 27.	9 4	40.4	40.6	45.2	33.2 46.6	40.5 46.9	43.9	51.8	42.9	45.8	53·9 35·9	41.7	35.4	37.0 43.3	47.0	30.3 41.9	43.0	45-8	40.3	00.7	45.2	48.9	
• • • •	••••		••••!	•••••	• • • • • •	• • • • •		• • • •	• • • • •	• • • • • • •	• • • • • • •	• • • • • •	• • • • • • •	• • • • • •	, .	• • • • • • •	•••••	• • • • • •	53.7	44-9	43. I		43.7	35.5	39. 1	41.8	52.7	42.0	44.0	:
	33.7	38	8.7	40.8	3 30·3	43.4	32.	i 4	47·3	38.8	55·3 47·8	49·0 47·9	45.6 39.5	52·3 25·5	53.2 31.9	51 · 1 38 · 5	37.6	56. t	61.5	52.7	39.4	49.5	41-4					•••••		:
• • •	34.3		• • • • •	• • • • • •	• • • • • •	••••		• • • •			• • • • • • •		• • • • • •		44.2		45.9	42.1	40.0	30.0	39.4	42.2	34.0	30.1	34.3	31.9	3/.5	31.5	30.3	3
• • • •	22 -		• • • • •	 	20.6	50.8	47.	5 5	53.0		55.3	39.5	41.6	45.3	49·5 40·7	40.2	32·1	55. I	52.5 59.8	51.6 37.3	32.0	45·9 46·4	37·7 38·0	20.8	41.8 45.6 30.9 44.8	37·9 40·3	50. 5 52. 8	38.9	39·8 35·5	2
5	23.0		••••	35.5	20.9	30.3	28.			33.5	4	41.1	42.0	7	37.3	<i>5</i> 7·5	44.1	41.3	45·8 33·7	36.7	40.2	44. I	34.8	34.9	44.8	34.9	33·5	36.6	31.1	2

vanimori.	State and station.	Lat. N.	Long. W.	Elevation.	1851	1852	1853	1854	1855	Pentad mean.	1856	1857.	1858	1859	1860	Pentad mean.	1861	1862	. 1863	1864	1865	Pentad mean.	1866	1867	1868
	Illinois-Cont'd.		0 /	Feet.	1										_										
10	Elmira Geneseo	41 10	89 49 90 06	505		• • • • • •	•••••	• • • • • •				••••	• • • • • • •	• • • • • •	•••••		•••••	• • • • • • •	4	X	, 38.0		34-4	24 - 4	34.8
02	Golconda	37 23	88 30	352 650																Ø				32.9	30-4
03	Grand Tower Griggsville	37 39	89 30	352		•••••		•••••		• • • • • •		••••			•••••	•••••	••••	• • • • • •				• • • • • •			
04	Galesburg	40 56	90 44 90 22	786														42.0		22.8	26. 2		22.0	22.2	
6	Greenville	38 50	89 25	555																					
7	Havana		90 05 89 21	475	•••••		•••••	• • • • • •	•••••	•••••	• • • • • • •			•••••		•••••		• • • • • •		• • • • • •		•••••	•••••		•••••
08	Irishtown	38 40	89 30		١							·													
o	Louisville	38 46	88 30	500			•••••			•••••					• • • • • • •			•••••		••••		• • • • • •	• • • • • •		
11	McLeansboro Manchester	38 07	88 35 90 34	682					48. T	•••••	21.0	32.7	40.4	42.4			30.0	20.0		27.2			42.7	20.0	27.0
3	Mattoon	39 29	88 24	724								33.7		·			30.0	39.9		-7.3					31.9
4	Mount Carmel Marengo	38 27	87 49 88 37	424	56.0	42.7	45.2	•••••	· • • • • • •	•••••	27.4	1			~~	26 8	26.7						30.8	27.0	*****
15	Mt. Sterling	39 58	90 47	525	50.9	42.1	45.2	· · · · · ·			31.4	37.9	50.2	29.9	29.0	35.6	30.7	41.1	25.6	24.0	37.1	32.9	39.0	27.9	44-0
7	Oswego	41 40	88 22	670					• • • • • •					<u>.</u> .											
18	Ottawa Palestine			500		•••••					29.5	34.7	47.2	27.8	30.8	34.0	38.9	55.7	36.7	29.4	36.6	39.5	32.8	28.2	33-5
0	Pana	39 25	89 07	735																		' . 			
15	Philo Peoria	39 59	88 08	771			• • • • • •	• • • • • •	• • • • • •	• • • • • •	26.0	20.6			• • • • • • • • • • • • • • • • • • • •				32.1						
13	Pontiac			000																					
24	Rockford	42 15	80 05	732									' - '												
25	Rock Isl'd Arsenal			528 600											50.2		68.6	70.4	50.4	28. 2	24. 2	52.4	36.2	40.0	34 - 3
7	Springfield	39 48	89 39	644														,	50-4		34.3				
28	Sycamore Winnebago			800		• • • • • •	•••••	•••••		• • • • • •			. : :		70 0	• • • • • •		;						٠٠٠٠ -	
30	Watseka			040								1		l			'	'							35.2
I	Wyanet	41 30	89 45	750																	50. I		34.4	27.0	36. 2
	Indian Territory. Arbuckle, Fort	24 50	97 22	1,000	24.4	16.0	26.7	28 2	30 B	77.0	42.1	477.4					1				!	1	ţ		
32	Gibson, Fort	35 50	95 20	540	52.2	51.0	25.0	28.0	. 25.5	28.8	1		1	'					'					1	
34	Reno, Fort	35 28	98 03								· • • • • •														
35	Sill, Fort			I, 200	1		42 2					1	1				į.							i	
7	Washita, Fort		96 38	645	31.7	47.1	30 6	43-3	21.9	34.9	29. I	33.2	· • • • • •												
	Iowa.			1,223												I.	İ					:			
8	Albion																								
0	Algona	43 15	94 13	1,500	1																				
I	Amana	41 47	91 55	T. 000		• • • • • •	• • • • • •	· • • • • •	•••••		• • • • • •	•••••	• • • • • • • • • • • • • • • • • • • •			• • • • • •		•••••			•••••				•••••
3	Baneroft		94 15	1, 170																					
4	Brookville		91 55	950	;	· • • • •					43.7	, .		40.0	27.0		39.8	33⋅5							
5	Bush Creek Burlington			600							· • • • • • • •														
7	Cedar Rapids	41 58	91 40	768																	1				
18	Charles City	43 05	92 43 91 38	1,005					••••	• • • • • •	·				•••••	• • • • • • •	! 	• • • • • •				•••••	• • • • • • •		••••
19 50	Clinton	41 50	90 10	630																· • • • • •					52.0
51	Columbus City	41 14	91 22																						
52	Concord			1.000																					
54	Cresco	43 22	92 07	1,855																					
55	Davenport Decorah	41 30	90 38	615	••••	• • • • • • •	•••••					• • • • • •			•••••			• • • • • •		•••••			• • • • • •	• • • • • •	••••
56	Denmark	40 44	QI IQ	0/5																· · · · · · ·					
58	Des Moines	41 35	93 37																						
59	Dubuque	42 31	94 12	665		26.0		27.7	20. I	· • • • • • •			47. 2		26.0		38.5	24.0	33.9	25.0	36. 2	33.7	36.4	34.8	30-3
51	Dysart	42 10	92 20	968					-9										33.3						33.4
2	Elkader	42 50	91 25		• • • • • •		• • • • • • •		• • • • • •						••••		• • • • • • •	• • • • • •		· • • • • •	• • • • • •		• • • • • •	• • • • • •	••••
54	Fairfield Garden Grove	40 50	93 34	940										!::::::											
55	Grand Junction	42 02	94 15	1,045																					
66	Grant City Hamlin	42 15	94 53 94 50																						
8	Harvard	40 47	93 18			·																			
9	Ida Grove																								
170	Independence	42 29	91 57	850										' - -										·	
72	Iowa City	41 37	91 30	621							i		43.2				47.7	45-4	33.0	46.1	45-1		44.8	44.3	42.7
3	Keokuk Logan	41 30	95 47	900										·										27.0	
5	Madison, Fort	40 37	91 28	600	45-4	52.3	,	46.3			43.9	27.5	51.0	37.5	32.3	38-4	30.8	37.5	30.2	31.1	44.5	34.8	41.8	31.5	44+1
6	Marshalltown McGregor			612		• • • • • •		•••••	• • • • • •	• • • • • • •	• • • • • •		· • • • • •	· · · · · · ·		• • • • • • •	•••••			• • • • • •		٠	••••	, • • • • • •	•••••
77	Monticello	42 13	91 15	880					40.2		38.7	30.0	52.2	32.4	32.9	37 - 2	37 - 1	52.1	36. 1	20.0	38.2	37.9	40.3	30.9	31.6
79	Mount Pleasant	40 59	91 37	729							• • • • • • • • • • • • • • • • • • • •														
0	Muscatine Nashua*	42 56	92 30	981	/4.5	59-4	44.9	23.0	31.1	40.7	41.9	54.9	50.5	35.8	45.2	39.3	44.2	52.9	26.7	34.0	34· I	JO- I	34.8	52.1	40.9
2	New London	40 55	91 24	768																	1				
3	Nora Springs	43 09	93 00																						
5	Oskaloosa	41 18	92 36	750										·											
6	Sac City	42 25	95 00	900			• • • • • •	• • • • • •	• • • • • •		• • • • • •			, · · · · · ·	• • • • • • • • • • • • • • • • • • • •	•••••	•••••	• • • • • •			· · · · · ·		•••••	•••••	****
8	Sherman towns'p			1,512																					*****
9	Smithland	42 14	95 57		·		·																		
0	St. Ansgar	43 22	92 55			•••••	•••••	•••••	• • • • • •	• • • • • •	• • • • • • • • • • • • • • • • • • • •		• • • • • •	• • • • • •	• • • • • •	• • • • • •	• • • • • •	• • • • • • • • • • • • • • • • • • • •		• • • • • •	•••••	• • • • • •	• • • • • • • • • • • • • • • • • • • •	•••••	•••••
91	Van Horne	42 00	92 04																						
93	Vanters Grove	41 18	94 34	1,500							 .						`		·						44-1
74	Washington Waterloo			769		• • • • • •			• • • • • •		• • • • • •	• • • • • •	•••••					•••••							
95	Wankon	43 16	01 20	631																					
97	Wesley	43 07	94 10	I, 257																					
98	Wolfdale t Kansas.		1 -																1						
nor.	Allison	39 33	100 17	2,515							· · • • • •								,						
39	Atchison											1													6. 6

869	1870	Pentad mean.	1871	1872	1873	1874	1875	Pentad mean.	1876	1877	1878	 1879	1880	Pentad mean.	1881	1882	1883	1884	1885	Pentad mean.	1886	1887	1888	1889	1890	Pentad mean.	1891
.3	· · · · · ·			· ·	31.6	26:9	26.6		34.5	35.0	31.6	24.9 20.0	32.0	31.6	38.9	37 · 5	•••••	 .		•••••	23.0	29.4					
7	• • • • • • • • • • • • • • • • • • •		<u>'</u>				3A-3		33.0	1	33.7	55.1	56.3		40- I 41- 0	70.8	57.2	54.7	44.5	53.6	36.6	33·7 28·9	40.6 38.1	41.4 37.9	55.8 48.5	41.6 36.6	45. 1
•	22. T		24.2								!					39.0	37.6	36.4	32.1		29.4	29.4	50.5	37.4	27.9	34.9	25.9
•			27.7	22.2	45.5		40.3	36.2	45.6	44.2		3333		F			54.2	66.6	48.5		50.6		44.6	37 · 2	39-4		33.5
•••		·	29.4	32.4	28.6	26.0	34.0	30.3	37 · 3	33-3	31.9		. ,			` .		• • • • • •			37.4	28·2 38·7	27.8 42.8	31.3	30.9 38.0	38.9	35·7
• • • •	3 9·9		36.7	33.7	49-4	55.0	59-5	46.9	62.6	43.2	44.5	-27.A	43.4	46.3	·				'					39 2	47.2	41.1	37 - 1
8		36.5					47.5						. ' .	· · · · · · ·	48.5	· • • • • • •						36.8	40.4				21.7
· • ·	0.																						40.0			42·4 30·3	36.3
	33.6		34.0	32. 1	41.8		43. I		50.7	43	50.7	21.7	29.1	39.6	47·3 39·1	47.2	33.9	26.2	25.2	28. 1	30.0	28.2	27.4	28.5		29.8	
. 0	28 .0	32· I				,		1-2	(•€			·				41.3	54.7	41.5	37.0			23.6 35.3	30.3	34·3 38·0	31.9	40.4	35·5 37·1
•••					\			143.684	********		ļ				ļ		36.9	35.2	50. 1		45.9	53.0 32.1	62·9 38·0	42.8 39.5	49.6 35.2		42.2
. 1	23.6	32.4	32. I	38.9	38.7	25.1	39-2	34-8,	43.0	39.7	31.9	28.9	40.0	36.7	41.0	40- I	36.6	41.9	32.2	38.4	28.7 18.9	26.9 16.1	38.3	34·9 28·0	25. I 29.4	30.8	32.9
••••	• • • • • • •		· · · · · · · · ·	26.5			31.6	26.0	42.5	38· I	33-7	30.5	32.0	35-4	44-2	36.7	37 · 3	47.5	45-3	42.2	44.1	36.3		29.9	43.9		31.0
- 3	41.3		;·····	39.5	54.5	24.3			52.2		1			.'	.'		40.0		33.4	49· I	27.7	38.4 25.2	35.3	31.3	,	31.8	36.2
	• • • • • •													;	56.4	43.4	51.0	44.9	48.5		31.6	29.8	40.7 25.2	33. I 25. 3 28. 0	29.5	29.4	28.5
7 • 2 • • • •	27·2	33.0				\														•••••	32.6	30.2	29.4		37.0	33.2	
-	-	36.4		•		33.0	40.0	41.0	•••••	!	•••••	1			!	•••••	!	•••••	•••••	•••••		••••		•••••			į
3.8						38-7	44.0	ļ	35.3	46.9	36.6	33.1	30-4	36.5	37.9	• • • • • • • • • • • • • • • • • • • •			-0 6			20.1		32.9		26.1	
	• • • • • • •	· · · · · · · · · · · · · · · · · · ·	19.6	25. I	33.7	29.0	37.3	28.9	25.0	48.5	33.7	25.2	33.8	33.2	28- 1	31.1	27.6		33. I		19.6	34.2	35.7	29·4		26. I 30. 0	
• • • •	 													·	· · · · · · · · · · · · · · · · · · ·									•••••			
		 .	 	34.1	23.4	35-9	41.6		36.5	33.8	32.4	l <u>.</u>		,		····· <u>·</u> ·			· · · · · · ·								ļ
	 				,				28.9	32·2 29·4	36.8 38.7	26. I 19. 2	20.7	27 · I	39.6	24 . 2	30.6 23.4	28.8	18.0								
										33.0	40.8 32.8	28.8 29.1		37.0	43·I 51·I	42. I 33. 0	31.4	34.6 30.0	37.0 33.3		23.0	22.7	32.4	23.7		25.8	, 2 9.8
• • • •	 		•••••				.; 			45.6	37.2	25. 1	29.5	•••••	40.2							27 · 2 25 · I	33.0 36.7	13.6		24.8	٠
	 	· • • • • • • • • • • • • • • • • • • •	`					·:::::		46.2	36.8	32.0 23.6			38.8	32.1	34 · 2	32.1	32.5	33.9	24.7	30.3	27.1				
		· · · · · · · ·		`					32-4		36-4	31.4	27.9	31.2	••••••	28.8	30.9 27.2				26.1		36.6	30-1	36.3	32.3	33.1
8.8	ı	• • • • • •		· · · · · · ·			· • • • • • • • • • • • • • • • • • • •		31.9	29.8	34.6 37·7				47.9	31.8 42.1	34·7 38·8	29.3 43.1	28.1 38.0	34·4 40·6	19·0 29·7	30.3 32.8	30.1	30.8	32.2	32.3	
••••	 . <i>.</i>			•			.; .;	`	'	` ;		27.1			38. I 43. 3	39·7 26·5	40.7 18.0	37·3 23·3	34.6 18.7	38. i 26. o	23.9 24.6	22.2 23.8					
••••	 . <i></i>			32.8 29.2		.25·5 27·6	38.6 28.6		34·7 32·9	38.7	34·7 37·9			33.6	43-9	32.6	45·5 34·8	46.5 34.6	35. 2 25. 9	34 - 4	27·9 23·5	23.5 26.5	35. I	23-4	35.1	28.7	28.3
			30-6	36.5			32.0				31.3		42.7	37.9	37.0	36.7 34.1	34.6 35.9		34.5	36.2	23.0	31.3	40.5		26.0		
••••										45-2	36.2	23.5 32.0	28-2 36-7		40.3	44-3		38.7	30·4 35·0	39·3	29.6	26.0 24.5	38.3 31.0	25.9	24.8	27. I	29.9
	25. 1	33.7				30.7	35.4		30.9			24.8	24.4			33.0	• • • • • •	• • • • • •	40.4	42.2	27.6	34.3	33.3	·	43.0	32.5	27.5
••••									`	35.6	32.8	30.7	41.7		49· I	37.6	29.6	31.6	43·5 34·9	38.3	26.2	23.8	28.5	·		••••	
									45. I	40.0	36.2	32.2	29.5	38.6	47. I 36. 7	42.0	37.5	39.5	29.4	39. I					 	• • • • • •	
	. 								43.0		20.4	27. 3	35.3		40.3		••••		34.0	• • • • • •		• • • • • •			 		
		· · · · · · · · · · · · · · · · · · ·										18-1	15.0	• • • • • •	34.9	24.4	23.5 46.2	32.4	29.4	24.9	17.5	12.3	22.2				
							. ·			'	37.8	36.4	51.0		45-0 41-3	36.4 27.1	37.8	37.7	41.5	39.7	28·7		37.8	28.5			
0.0	27 - 5		25.6	29.9	, 29.0	31.8	35.0	30.3	51.8	. 30-7	30.4	34.3	41.7	37.8	34.3	34.5	33.8 37.2	43.8	34.5	36.2	27.4	35.0 30.6	32.6	24.4	27.0		28.2
	<i></i>			29.5	40.9	35.7	48.3		· 51·5	48.6	32.0	22.5	34 • 4	37·5 37·8	39. I 56. o	41·4 37·6	38.8	32.8	35.2 41.0	37.5	29.7	26.4	35.7	34.8	26.9 35.5	30.7	33·4 35·3
7.5	30.2	37.8	30-3			25-4			36.8	40.0	34.0	22.2	30.6	32.7	38·4 53·1	43-5	43.3	42.0	28.4 42. I	39.1	27.3	28.2 27.1	33.8	33.7	34-1	31.4	30.2
	• • • • • • •					20.0	28 7	27.0	40. I	31.0	39.9	33. I 40. 7	39.2	36.7	. 48. 6	36.6	39.0	33. I 36. 2	34.0	38.9	26.2	33.5	29.4	23.9	39.8	30.8	28.5
!		34.6										20. 1	33.6	• • • • •	50· I 46· 2	35·5 44·3	40-3	40. I	40.3 39.1		24.7	33.8 27.1 28.3	34.7	30.3	44.2 21.0	33.7	30.4
		34-8										33.0	69.0		77.6	36.5		41.8	50.6	50-7	25.6	43.8	26.8		31.9	• • • • • •	;
									32.0	30-9	28.3	33.0	27.9	30.4		43.0	20.6		34.7	•••••	•••••			•••••			
•••	• • • • • •	•••••							41.4	34.7	25.0	25.8	28.9	31.2	41.1 44.4 46.7 39.3 34.1 42.0	31.4 34.9	35·9 33·9	3/.9	43.6 -		32.0	2/.2	38.8	20 -	16.6	·····	26.3
	• • • • • • • • • • • • • • • • • • •	• • • • • • •			::::::				33.0	38.6	34·3	30.0	30.9	27.8	39.3	32.9	32.5	31.2	33.2	33.8	21.7	19.3	32.4	20· I	23.4	20.5	20.7
	 	· · · · · · · ·										17.9	17.7		42.0	17.5	30.7	29.2	28. I	20.5	21.1	26.3	27.2				
		· · · · · · · · · · · · · · · · · · ·		,			· · · · · · · · · · · · · · · · · · ·		43.9	39.7	33.8	30-3	43-3	38.2	51.4	37 0	20.7	39. I	29.2	30.7	25.0	25.2	30.2				••••
D- 3			40.5	39.8	27.8													. 						·			
									36.4	33· I	38·8 	33-9	39·9 23·5	36.4	38-6 45-2 54-6	41.0 30.4	35.6 25.7	35·6 24·7	31·2 29·5	37·7 33·0	23.5	27·7 30·2	36.2 40.7	14.5	27.0	27.0	
																		21.4	18.2		7.5	21.1	22.6		' '		

-		-		ď	Τ				ı	7		1		ı	i	-					1	ਰ	i		 1
Number.	State and station.	×	W .8	evation	1851	1852	1853	1854	1855	- m	1856	1857	1858	1859	1860	n ta	1861	1862	1863	1864	1865	enta mean.	1866	1867	1868
Nun		Lat.	Long.	Elev	1031	1000	1-335	1034	1-335	Pents mean	1030		1000	1039	1000	Per		1002	1003		1003	Pen	1000	1007	
-							-			=	!														
401	Kansas-Cont'd.	37 03	94 44	Feet. 811	ļ																				45-3
402	Council Grove	39 02	96 28	811 2, 586 1, 238 1, 375 2, 512 1, 488 1, 132 2, 811 2, 107 1, 026 794 1, 932 849 842	·····		• • • • • •	•••••				•••••				••••;	•••••		• • • • • •	• • • • • •	•••••		40.0		
404	Cresswell	38 17	97 14	1,375												•							49.0	42.3	54.1
405	Dodge City	37 45 39 32	98 25	2,512				• • • • • •	····			¦ • • • • • •			• • • • • •	•••••			•••••	• • • • • •		• • • • • •		• • • • • •	• • • • • •
407	Elk Falls	37 22	96 14								·														
408	Grainfield	38 24	96 12	1, 132													•••••		• • • • • •	• • • • •	• • • • • •		• • • • • •	• • • • • •	• • • • • •
410	Hays, Fort	38 50	99 21	2, 107																					15.6
411	Independence	39 28	95 43 95 41	1,026		· • • • • •											• • • • • •		•••••				•••••		
413	Larned, Fort	38 11	99 14	1, 932													18.1	18.1	33.6	26.8	36.6	26.6		18.7	
414	Lawrence Leavenworth, Fort	38 58	95 I4 94 57	849	37.0	36.5	25.4	24.5	27.7	30.4	42.7	31.0	50.8	18.8	10.5	38.5	39.8	20.6	29.3	14.8	50.7	31.0	41.8	22.7	37.5
416	Le Roy	38 04	95 30	994	37.9		,	-4-5																	
417	Manhattan Monument	30 06	96 37	3, 180										30.1	15.1		35.2	20.2	39.9	20.2				26.3	30. I
419	Ninnescah	37 39	98 24	1,700																• • • • • •		• • • • • •		• • • • • •	• • • • • •
420 421	Riley, Fort	37 09	97 00	1,072				10.9	20.2		24.9	18.1	32.0	23.6	15.4	22.5	31.8	20.1	28.4	14.5	21.3	23.2	28.0	30.3	24.4
422	Salina Scott, Fort	38 50	97 36	1,225		46 -										•••••				• • • • • •	•••••			• • • • • •	
423 424	Topeka	30 03	94 41 95 39	884	33.0	40.5																			
425 426	Wakefield Wallace, Fort	39 07	97 04	1, 152	·····	• • • • • •		• • • • • •								• • • • • •	••••			•••••	•••••		!	• • • • • •	• • • • • •
427	Wellington	37 16	97 26	1,219																					
428	Yates Center	37 53	95 43	1,040		•••••	j			•••••			• • • • • •			• • • • • • • • • • • • • • • • • • • •	• • • • • •		• • • • •	• • • • •		•••••		• • • • • •	• • • • •
429	Bowling Green	36 58	86 25	600			`						l							 .					
430 431	Chilesburg Frankfort	38 04	84 21 84 53	900 560									42.4	47.7	36.8		47.6	47.3	46.0	41.0	60.3	48-4	51.2	53.0	51.2
432	Lexington	38 02	84 33	946																					
433	Newport	38 15	85 45	530 500					51.0		27.7	46.2	58 1	46.8	40.0	43.8	52.2	38. O	35.7	35.8	48.3	42.0	51.0	32. I	47.4
435	Springdale	38 07	85 34		42.3							46.7	49.9	46.8 51.1			49.6	60.2	46.5	45.2	62.1	52.7	59.9		
436	Louisiana.	31 19	92 23	82					ļ .			!							·						
437	Baton Rouge	30 25	91 05		41.5	53.5	53.9	60.6	49.0	51.7	67.7	49.9	64.3	50.8	•••••				• • • • • •	• • • • • •				• • • • • •	• • • • • • •
438	Coushatta	32 28	93 14	100		• • • • • •																			
440	Grand Coteau Liberty Hill	30 27	91 58	93		•••••	•••••		• • • • • •	• • • • • •			•••••	¦·····					•••••	• • • • • •		• • • • • •		• • • • • •	• • • • • •
441 442	Mandeville	30 21	90 or												! • • • • • • • • • • • • • • • • • • •										
443	Monroe	32 29	92 02	100	50. 2	43.0	61.8	52.0	42.0	50.2	67.0	47.5	60.7	40.4					•••••		•••••			• • • • •	
445	Point Pleasant	32 05	91 30	120	, ,,,,,	43.9																			
446	Shreveport West Melville	32 30	93 40 91 40	249															•••••						
	Maine.	-			1																				
448	Bar Harbor Brunswick	44 23	68 12	50 74	47-4	55.3		46.2	44.7		32.7	42.8	45.6	48.6											,
450	Cornish	43 44	70 51	780							1	58. I	44.6	50.7	51.0		46.7	38.7	50.6	45• I	44.9	45.2	45.6	43-9	45-6
451	Gardiner		66 59 69 48	53 76	50.9	46.7			39.3		38. o	46. I	46.9	48.3			40.2	39.2	49.5	41.0	41.8	42.3	45-7	47.8	43-3
453	Lewiston		70 10	200					1									42.4	52.4	. 44. 1	47.4	44.6	49.2	48.2	49-2
454 455	North Haven	44 08	70 07 68 52	22						1					·		1					1			
456	Oxford		68 44 70 33	137																· · · · · ·					
457 458	Perry	45 00	67 05	100				51.3	51.9		49-3	59. C	36.3	61.8			47.1	44.6		45.8					
459	Preble, Fort	43 39	70 15	53																				46.8	47.8
461	Steuben	44 31	67 58	50					1								54. I	55.0	54.2	40. 7	47.6	52. T	54.7	62.4	55.4
462	West Waterville Maryland.	44 33	69 42	250			i i		ı	l	1			1	l	ł	1	1				l	1		1 1
463	Annapolis Baltimore	38 58	76 30	20	26.2			· · · · · ·		•••••	•••••	51.7	38.7	51.6			54· I	52.6	45.0	42.2	57.8	50.3	60.4	63.9	52.4
464	Cumberland	39 39	76 37 78 45	700	36.3																				
466 467	Emmittsburg Fallston	39 43	77 20 76 24	715		· • • • • •																			47.8
468	Foote, Fort	38 48	77 02	95															• • • • • •						
469 470	Frederick McHenry, Fort	39 24	77 24 76 35	400 36	1 1	AN.O	36.0	22.0	24.1	42.8	22.8	42·4 38·3	47.4	47.8			33.7	30.0						• • • • • •	
471	St. Inigoes	38 10	76 20	10		• • • • • •	•••••																		
472 473	Sandy Spring Schellman Hills	39 25	77 00	700				40.2	53.9					56.2	59.3		46.0	47.3	63.6	41.6	46.0	48.9			
474	Woodlawn Woodstock College	30 30	76 04					• • • • • •			•••••										52.1	•••••	53· I	50.4	51.9
475	Massachusetts.		76 51	400				••••							İ		i				}				
476	Amherst	42 22	72 32 71 07	267	43.5	43.6	49.6	47 • 4	48.3	1	40. I	47.7		51.3	39.7	44.5	46.8	49-4	55.8		52.9	45.8	44.7	46.0	49.5
477 478	Boston	42 21	71 04		44-3				44.3	46.2	52. 1	56.9	52.7	56.7	51.6	54.0	50.2		67.6	49-4	47.9		50.6	55.7	64
479 480	Cambridge	42 22	71 07		42. I			45.3	47.7	45-9	53.8	57.9	45.6	59•4	45.0	52.3	50-4	57 - 1	56.4	39.5	43.6	49-4	33.7	41.8	39
481	Dudley	42 02	71 55	800							••••						•••••	•••••							•••
482	Fall River	41 42	71 09	700		• • • • • •	•••••										••••		• • • • • •		33.0		51.5	42.5	4:
483 484	Kingston	42 00	70 45	65											'									45- I	4t
485 486	Lake Cochituate	42 18	71 25 71 10	143				43.2	34.7		58.6	56.6	40.7	49.2	55·4 34·8	47.8	45·4 39·4	38.6	09.3 55.5	42.0 39.2	49·5 33·4	51·3 41·2	38.0	56.4 51.9	
487	Long Plain	41 44	70 55	55																					
488	Lunenburg	42 36	71 17	450	45.8 49.5	43.2	56.9	42. I 54. 3		51.9	48.6	57.9	59.3	48·4 70·3	48.4	56.9	44.7	39.8	53 - 1	31.8	40.9	42. I	48.5	53.8	51
490	Mansfield Middleboro	42 01	71 15	150																					
491	Nantucket	41 17	70 55	30	41.8	30.0	41.9	47.5	48.9	44.0	35.8	49.9	42.0	48.5											
493	New Bedford Northampton	41 39	70 56	100	49.6	41.1	35.1	47-8	36.4	42.0	32.9	38-5	42.3	48.9	38.3	40.2	44.8	41.4	44.5	39.4	44.5	42.9	38.6	45.6	54
494 495	Plymouth	41 57	70 40	55												` • • • • • •									1
496	Rowe	42 42	72 54 70 54	7 600					1					1											
498	Somerset	41 47	71 08	40																					1
499	Springfield	42 08	72 35	120	45.2	40.0	51.4	50.3	47.3	47.0	30.0	44.8	37.6	40.0	41.3	42.2	40· I	49.8	21.0	30.8	42. I	44.5	42.0	49.7	

69	1870	Pentad		71	1872	1873	1874	1875	Pentad mean.	1876	1877	1878	1879	1880	Pentad mean,	1881	1882	1883	1884	1885	Pentad mean.	1886	1887	1886	1889	1890	Pentad mean.	1891
.0	38.0		. 41 	.1	29.8	37.0	34-9	52.6	39-1	42.7	48-5			!										7.5	!	16-0		
.6	35.8	44.	40	·3 ···¦	33.9	36.6	30-5	10.8		39.8	48·9 28·0	40.7 18.0		24·4 18·0		33.7	13.1	28.4	30.4	23.9	25.0	19.3	15.8	23.0	10.1	111.6	17.8	32.5
												25.5	24.3	22. I		22.7	23.3	31.4 52.8	28.9 44.6	31.6 58.4	27.6	26.4 32.7	26.1 26.9	13.7 34.8		13.5 22.9	21.9 30.7	43.8 26.8
	17.8		30		15.3	22.7	37.2	32.0	27.5	36.0	30.5	36.1	33.1	24.8		35.2	30-2	35.2	32.5	36.7	34.0	30.6	29.3	33.6 23.8 18.9	36.0	13-3		35.1
• •	39-2		31	.5	44.0 33.4	31.3 35.6	32.2 31.5	36.9	34-1	35.7	46.8	43.2	33·1 33·0	27.2 26.6	37.1		25.9 34.0	42. I 34·3	43.9	44-4	42.3		31.7	40.8	44.6	30-7	35-5	30-4
5	31.5 40.9			∙3 ¦	7·9 32·6 43·6	16.7 33.6 35-3	23.4 29.0 33.8	28.7		18-4 44-2 44-5	31.0 41.1 52.0	38·5 35·3		32·5 37·0		33·4 30·8	27·4 26·1	40.7 41.9	43.6 44.6	36.9 43.7	36.4 39.2	24.2 22.3	33·8 37·1	44·2 47·2	45·3 41·0	36.4 28.4	36.8 35.2	43·4 37·8
2	22.0		· 38 · 30		41.0 37.4	32.0 32.8	27.6	41.9	36. I 28. o	34.6 45.7		39-2		29.2	·····	29· I	27.8	36.3	37-2	24.0	30.9	30.9 10.5	30.4 19.1	31.3	31.0	22.8 13.6	29·3 15·7	27.7
•	24.0	27	7 32	. 2	31.5	24·3	15.8	15-4	23.8	37 · 5	32.6	28.5	33.0	30.3	32.4	28.9	21.4	22.0	25.4	24.9	24.5	18.0 25.9	24.4	24. I 28. 5	30.3	22.0	23.8	26.0 32.4
••			::::::					• • • • • • • • • • • • • • • • • • •				· · · · · · ·	24.5	35-3		44.6	24.5	30.2 38.0 38.1	54.8	31.1 38.4 32.9	33.0	24.8	27·8 36·0	33.9	32.7	18· I 28· 4	24.4 31.9	28.2
::	15.0		• • • • • • • • • • • • • • • • • • •			6.8	13.6			17.1	14.3	19.9		34.0		20.0				21.0			39.0	29.2 16.7	36.2 14.6	24.0		32.6 16.4
• •				•••									29· I				36.0 38.3	40.3	29. I 25. 2 28. 9	35·2 26·2	36.0 36.4	28.9 27.9	28.8 19.8	33·7 26·4 34·6	38·3 31·3 35·4	23.9 20.3 34.4	30.7 25.1 31.6	30.2 28.8
																								48.6	46.3	63.0	ļ	51.1
I ••	50.8	50.	3 43		39-8	47.1	47.1	45.5		' '			1					54-2	49.6	41.6		46. I	39.7	47·4 46·9	44· I 41· 5	58·7 61·1	47.2	45. I 45. 5
2	28.5		. 42 4 35		41.8 28.4	45.7	43.6 33.2	53·2 37·1	33. 2	53.5	44.6	46.9	50.7	53.7	49-9	36.5	56.6	51.4		47-2	48.6	40.8	38. 1	47.9	35·1 37·3		43.5	
6	41.7	51.	5 42	.2	44.8			<u> </u>						1					·····	55.8		80.0	50.9	54.0	42.4	76. 1	62.5	53.9
				•••			68. 1	70.6		54.1	76.9			·····									49.5	41.9	44.5	52.2 61.2		56.3 50.8
•			. , 50	- D	51.6			• • • • • • •		'	; ;							54-3	71.0	60.7 44.7		44·5 59·9 46·4	47.7	45.6 50.0 45.9	44·5 44·9 44·9	54·9 50·5 57·1	46.6 50.6 48.3	35.7
		:	 -;;	· · · · ;								,				• ; • • • • •		`	03.9	50.8		51.9	54·7 49·7	72.2 46.9	34·7 43·4	43.1	51.6	46-1
		.'	• • • • •	•••			62.8	, 67-2	67.8	46.9	80.7	86.0	, 89-4			53.7		71.2	66.2	72.0			65.0	83·2 44·8	46. I	42-1	•••••	38·7 36·0
•••			•	•	•••••	•••••	' I									 I					•••••		50.0	60.5 57.1	34.7	58.7	51.6 49·3	
	49.3	47	3 48	.5	42.0	46.7	34.6	53.5	34.5	36.4	43.6	45-2	41.2				41.7	38.9	52.9	50.1		52-3	43.2	48.1	42.9	60.7	49.4	47.9
-4	42.9				42.5		42.5 42.5			57·9 50·2	50-6 39-8	51·3 48·5					47.1	53·1 39·2		54·2 41·3	55.0 45.0	41.4 48.4 47.6	46.9 54.6 46.6	53·3 54·0 56·3	42.2	45.2	45.8	35.4
1	42.4		2 54 28	۰5 ۱	39.9	30.4	34.1		33.1		28. 1										·			'				
2	37.2		· 41 · 47						43-8	52.4	40.3	48.5	46.8	33.8	44-3	42.9	41-1	40.0	44.9	52.9	44.5	48-1	53.0	58-8	42.8	53.0	51.1	47.5
	48.5				37 · I				•••••		43·4 37·3	38.6 37.2		37.6 27.4		46.6,		31·9 24·3	52.5	39·9 28·4	42.0	51.6	49-2	59.3	42.1	51·9 48·1	50.8	43·4 36·0
ŝ	39. 1		42	.2	38.8	40.9	35.6	45-4	40.6	39.7	35-3	47-4									•••••	•••••			•••••	•••••	•••••	
• • •	• • • • •		32	· 7	35-4	49.3	33.6	45.6	39.2	46.7	43.0	50-1	36.0	42,0	43.6	49.2	42.0	40-6	45.8	46· I	44.7	52· I	43.6	43.5	62.2	46.9	49.7	54· I
6	51.0		38	•5	39.5				45.0	41.7	47.3	49.3	34.0	39.3	42.3					38.8								
				• • • :				• • • • • •								· • • • • •					'				51.9	44.0		45.7
									37.0																			
4	47.8	50.	3 4I 36	. 4 . 5	35·5 37·8	54·5 51·1	42.6	48-1	44·4 39·7	42.7	57.7	57.7	41.1	12.0	48.2	48.7	35.0	47.0	30.0	44.7	43.4	47.3	37.0	42.5	40.8	42.5	44.0	54.2
1	38. 5	46.4	45	.9	44.2	42.0	48.0	47.0	45-4	41.5	42.4	49.4	46.0	35.8	43.0	42.2	43.3	38.9	40-4	40.6	41.1	43.3	52.9	64.2	49-4	49.2	51.8	47.7
I 8	45.6 43.5	41.1	47		50-5 52-8	54·4 46·0	43·4 38·7	50.1	49. I 46. 0	48.9 47.6	51.4	65.6 54.6	45·7 18.0	37·3	49.8 44.1	52.7	43.8	35·4 32·6	40·4 49·2 47·5	45·1 42·8	45·2	47·1 42·1 46·4	43·7 33·8 45·7	55.9 46.0 56.9	54·5 39·9 43·6	50.9 46.0 43.8	41.6	39.9
																								51.0	48.3	50.3	47.0	51.3
3	30.6 45.9	43.	5 34 43	3	41.7 45.3	39.2	32.7	54-4 41-9	38.0	58·3 38·4	55·4 37·4	55.0 45.2	47·4 40·9	32.2	38.8	51.3 34.1	45·9 32·6	42.4 29.2	54·9 37·3	37·7 35·8	33.8	52.8 45.7	40.5 55.2	59.7	45.7	58.5	50.0	49·9 45·9
	48.2	48.	42	. 1	43.5	39.4	42.9	43.0	42.2	43.9	43.5	48.1	39.7	35-4	42. I				43.3	45.2	40.2	44.3	47.2	55.0	47.8	50.5	49.0	40. I
;	48.7	46.9	44	. 2	48.7	45. I	41.9	43.5	44-7	47-4	41.4	58.6	45-4	36.5	45.9	44.2	38.0	32.3	44.0	48.0	41.3	53.0 46.9	43·8 52·0	00-2	46.8	02.0	51.4	
•	• • • • • •		· · · · · ·	• • •		· · · · · · ·			• ••••• •,••••		· · · · · · · ·						••••					• • • • • • •	54. I 45. 3	58.7	59•0 51•6	55.8 53.9		52.3
	47 · I	46.8	3 48	.6.	46.8	40.0	53.2	40.4	49-4	41.6	45.5	50.3	42.3	30.5	42.8	41.0	41.2	42.0	55.0	37.7	41.6	50. 3	51.8	54-7	52·7 53·6	61.2		
		· · · · · ·	· · · · · · ·	•••		· · · · · · ·		 				54.2	46. ī	41.9		49-4	37 - 4	36-5	39-4	43.9	41.3	47. I	53.6	50.5 56.1	49.0	52.9		. 46-2
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State and station.	Lat. N.	Elevation	1851	1852	1853	1854	1855	Pentad mean.	1856	1857	1858	1859	1860	Pentad mean.	1861	1862	1863	1864	1865	Pentad mean.	1866	1867	180
Massachusetts—Con.,		Feet.																					·;
Waltham Faunton	41 54 71 05		40.7																	41.7	43.6	41.5	44
Thatchers Island Vestborough	43 38 70 34 42 16 71 33			•••••			· • • • • • •	•••••		• • • • •	• • • • • •				•••••		••••			·		•••••	
Vestfield	42 05 72 45	180					48.6		47.6	53.4	43. I	54.2			52.4	49.7	59.8	34 · I	43-3	47.9		•	
Williamstown Woods Holl	41 33 70 40	35			. • • • • • · · · ·					• • • • • •													
Norcester	42 16 71 49	483	43.9	61.9	59.6	59• I	58.6	56.6	46.9	53.2	41.0	48.9	48.7	47.7	42.2	44.0	•••••		38.6	•••••	42.4	49. 1	45
Adrian				••••	, - ,	· · · · · ·	•••••	ا . _.		• • • • • • <u> </u>	• • • • • •		· · · · · ·	•••••	•••••					•••••	;·····	•••••	••••
llpena	45 05 83 30	. 600	•		1											,							
Brady, Fort	41 58 85 00	າ ດດ8	45-2		'																		
Detroit Escanaba	42 20 83 03 45 45 87 01	661	,	•••••	•••••	46.6	71.3			. 	• • • • • •	29.0	28.2	•••••	38-4	31.4	30-5	25.8	21.I	29-4	31.6	•••••	• • • •
Frand Haven	43 05 86 13	ເ່ 620-		':								· '						·					
Frand Rapids	42 59 82 25	: 508	31.8			'			'										·				
darrisville Kalamazoo	44 40 83 15 42 20 85 38	010			' • • • • • • '					 '	 '				`•••••								
ansing	42 44 84 26	6 841							1	[;]	 .	'				·		28.4	20.0		39-5	24.5	1 2
lackinac, Fort	45 51 84 40	728	11.7		37.1	25.5	22.8	!			'	22.4	21.6										
Mackinaw City	46 34 87 24	596 573			· • • • • • • • • • • • • • • • • • • •	· · · · · ·					38-5	42.6	25.7		39· I	30.2	35-5	22.4	26.0	30.6	29.8		• • •
Marshall		883			•••••		•••••	•••••	!					,									• • •
Monroe City	41 56 83 27	584								!			27.5	·	28.2	33.5	34 · I	28.9	26.5	30.2	28.5	32.8	3
Northport	45 08 85 40	592	1							• • • • • •													
Ontonagon Ort Huron	46 53 . 80 31	630		•••••	۱	•••••			• • • • • •	••••	• • • • • • • • • • • • • • • • • • •		21.2		34.5	22. 1	23.9	22.0			•••••		• • •
Reed City	43 44 85 28	1,016		'						 [']	!									'			
recumseh	42 01 83 57	821							'		'									!			
l'hornville l'hunder Bay Isl'd.	44 50 83 25	575		•••••	,						. .	35.2	28· o		36.2	37.0	30 Q	31.9	31.3	33.5			• • •
Traverse City Minnesota.	44 45 85 40	598			•••••			•••••		· · · · · · ;	•••••										•••••	•••••	• • •
Beaver Bay	47 12 91 18		İ			· • • • • • •	·	٠ ا				33-7			34.5						27.1	39.2	2
Breckenridge	46 48 96 45													·			· • • • • •	i		·			
Mankato	44 08 94 02	778		•••••		•••••	•••••		•••••		•••••	• • • • • •	• • • • • •	•••••	•••••	•••••	•••••		••••	•••••	27.4	73.7	
Moorhead	46 52 96 44	923			·											· • • • • • •		` 					• • • •
Morris' New Ulm	44 10 04 30	821																	35. 3		22.4	32.0	24
Northfield Pine River Dam	44 28 93 08	932								'	'									'			
Red Wing	44 33 92 30	800							!	!	'										·		
tipley, Fort	44 28 94 40	1,130	35.3	34.0	20.1	25.2	23·7 34·7	27.0	25.4 23.1	38.2	19·9 22·7	32.8	16.9	26.7	32.4 23.1	30.2	17.2 18.1	14.3	34.9	24. I		30.4	3:
st. Paulst. Vincent	48 56 97 14	811	35-3			•••••		• • • • • •	· · · · · ·	 . <i>.</i>	· · · · · · · · · · · · · · · · · · ·	29. I	34.2		30-5	34.5	15.7	14.9	38.1,	26.7	27.9	33.6	3
Bnelling, Fort Mississippi.	44 53 93 10	820	23.4	15.0	20-4	26.5	24.9	22.0	22.7	32.1	•••••	•••••	•••••	•••••	· · · · · ·	•••••	•••••		•••••				. 2
Artonish	31 10 91 35		.,					٠	• • • • •	<i>.</i>			• • • • • •	·····	• • • • •			••••	•••••	· _.		•••••	•••
		1 430		••••					•••••;	• • • • • •	•••••	• • • • • •	•••••				• • • • • •			•••••	•••••		
Brookhaven	32 36 90 00	128								• • • • • •	•••••			• • • • • •							• • • • • •		5
Canton	32 36 90 00	128	44.2	37· I	52.8	49-8			55. I	51.0	57.2	61.2	48.2	55. I	50.2	45.3	68. 3	48.7	54.6	55.2	61.1	51.Q	•
Canton Church Hill Columbus Cayette	32 36 90 00 31 42 91 16 33 31 88 28 31 43 91 07	228 250 227 282	44-2	37 · 1	52.8	49-8			55· I	53.9	57 · 2	61.2	48.2	55-1	59.2	45.3	68-3	48.7	54.6	55.2	61.1	51.9	•••
Canton	32 36 90 00 31 42 91 16 33 31 88 28 31 43 91 07 33 48 89 50 31 34 91 27	228 250 227 282 187 264	44-2	· · · · · · ·	52.8	49.8			55- I	53.9	57 · 2	61.2	48.2	55-1	59.2	45-3	68-3	48.7	54.6	55.2	61.1	56.2	6:
Canton Church Hill Columbus Cayette Grenada Natchez Oxford Starkville	32 36 90 00 31 42 91 16 33 31 88 28 31 43 91 07 33 48 89 50 31 34 91 27 34 25 89 20 23 30 88 48	228 250 227 282 187 264 450	44.2		52.8	49.8			55· I	53.9	57 · 2	61.2 48.0	48.2	55-1	59·2 51·5	45-3	68-3	48-7	54.6	55.2	61.1 71.3	56.2	62
Canton Church Hill Columbus Cayette Grenada Natchez Oxford Starkville	32 36 90 00 31 42 91 16 33 31 88 28 31 43 91 07 33 48 89 50 31 34 91 27 34 25 89 20 23 30 88 48	228 250 227 282 187 264 450 369	44.2	42.4	52.8	49.8			55· I	53.9	57.2	61.2 48.0	48-2	55-1	59·2 51·5	45-3	68-3	48-7	54.6	55.2	61.1 71.3	56.2	
Anton Church Hill Columbus Sayette Frenada Natchez Xxford ttarkville Jicksburg Vazoo	32 36 90 00 31 42 91 16 33 31 88 28 31 43 91 97 33 48 89 50 31 34 91 27 34 25 89 20 33 30 88 48 32 22 90 53 34 10 89 30	228 250 227 282 282 187 264 450 369 244	44.2	43-4	52.8	49.8			55-1	53.9	57.2	61. 2 48. 0	48.2	55-1	59-2 51-5	45-3	68-3	48-7	54.6	55.2	61.1 71.3	56.2 48.9	5
Anton Church Hill Columbus Cayette Trenada Natchez Oxford Starkville Vicksburg Vater Valley Vazoo	32 36 90 00 31 42 91 16 33 31 88 28 33 31 43 91 07 33 48 89 50 31 34 25 89 20 33 30 88 48 32 22 90 89 30 34 49 90 26	228 250 227 282 282 187 264 450 369 244	44.2	43-4	52.8	49.8			55-1	53.9	57 · 2	61. 2 48. o	48-2	55-1	59·2 51·5	45-3	68-3	48-7	54.6	55.2	71.3	56.2 48.9	54
Anton Church Hill Columbus Cayette Trenada Natchez Oxford Starkville Vicksburg Vater Valley Vazoo	32 36 90 00 31 42 91 16 33 31 88 28 33 31 43 91 07 33 48 89 50 31 34 25 89 20 33 30 88 48 32 22 90 89 30 34 49 90 26	228 227 282 282 282 282 282 282 282 282	43-3	43-4	51-8 51-8	49-8			55-1	53-9	57-2	48.0	48-2	55-1	59-2	45-3	68.3	48-7	54.6	55-2	71.3	56-2 48-9	54
Anton Church Hill Columbus Cayette Frenada Natchez Xxford ttarkville Ficksburg Vater Valley Sazoo Missouri Sig Creek Solivar Soonville Jarthage	32 36 90 00 31 42 91 16 33 31 88 28 33 48 90 97 33 48 90 97 34 25 90 53 34 10 90 26 38 56 91 00 37 35 93 30 38 56 91 00 37 35 93 35 93 37 12 94 23	228 250 227 282 282 282 284 450 369 4 244 116	43.3	43-4	51.8	49-8			55-1	53-9	57-2	48.0	48-2	55-1	59-2	45-3	68-3	48.7	54.6	55-2	71.3	56.2 48.9	54
Anton Church Hill Columbus Sayette Frenada Natchez Stord Starkville Ficksburg Vater Valley Sazoo Soonville Sarthage Senterville Arthage Senterville Shilleothe	32 36 90 00 31 42 91 16 33 31 88 28 33 48 90 27 33 48 90 27 34 25 90 33 34 10 90 27 38 56 91 00 37 35 93 30 38 56 91 00 37 35 93 30 38 56 92 45 93 30 37 37 12 94 23 37 27 90 59	228 250 250 282 187 264 264 369 244 116 1,000 603 992	43.3	43-4	51.8	49-8			55-1	53-9	57-2	48.0	48-2	55-1	59-2	45-3	68-3	48.7	54.6	55-2	71.3	56.2 48.9	5
anton church Hill columbus ayette rrenada Natchez Strond Starkville ricksburg Vater Valley Vazoo Missouri Golivar Goonville arthage centerville chillicothe Edina	32 36 90 00 33 31 88 28 33 48 90 77 33 48 89 50 31 34 91 77 34 25 89 20 33 30 88 48 33 32 22 90 53 34 10 89 20 38 56 91 00 37 35 93 30 38 56 91 00 37 35 93 30 38 50 93 30 39 48 93 36 40 10 92 12	228 250 227 282 187 264 450 369 244 116 1,000 603 992 765 840	43-3	43-4	52-8 51-8	49-8			55-1	53-9	57-2	48.0	48. 2	55-1	59-2	45-3	68- 3	26.5	54.6	55.2	71.3	56-2 48-9	5
anton church Hill columbus ayette rrenada Natchez Strond Starkville ricksburg Vater Valley Vazoo Missouri Golivar Goonville arthage centerville chillicothe Edina	32 36 90 00 33 31 88 28 33 48 90 77 33 48 89 50 31 34 91 77 34 25 89 20 33 30 88 48 33 32 22 90 53 34 10 89 20 38 56 91 00 37 35 93 30 38 56 91 00 37 35 93 30 38 50 93 30 39 48 93 36 40 10 92 12	228 250 227 282 282 187 264 450 369 244 116 1,000 603 992 765 840	43-3	43-4	51-8	49-8			55-1	53-9	57-2	48-0	48.2	55-1	59-2	45-3	68- 3	26.5	54.6	55-2	71.3	56·2 48·9	5
Anton Church Hill Columbus Payette Prenada Natchez Syford Starkville Vater Valley Vazo Soonville Carthage Centerville Carthage Centerville Chillicothe Cdina Circenfield Carrisonville Cermann Contonille Columbus	32 36 90 00 33 31 42 91 16 33 34 88 28 33 48 89 50 31 34 91 27 33 48 89 50 33 30 88 48 33 32 22 90 53 34 10 90 26 38 56 91 00 37 35 92 45 37 37 90 59 37 37 25 93 50 40 10 92 12 37 25 93 50 40 10 92 12 37 25 93 50 40 10 92 12 37 25 93 50 40 10 92 12 41 91 28 42 90 37 43 90 90 37 44 90 90 37 45 90 90 37 46 90 90 37 47 98 90 90 37	228 250 227 282 282 187 264 450 369 244 116 1,000 603 992 765 840	43-3	43-4	51-8	49-8			55-1	53-9	57-2	48-0	48.2	55-1	59-2	45-3	68- 3	26.5	54.6	55-2	71.3	56·2 48·9	5
anton church Hill columbus cayette rrenada Natchez Strord Starkville ricksburg Vater Valley (azoo Missouri Solivar Soonville arthage centerville chilicothe dina irreenfield larrisonville Iermann ronton (ansas City cirksville	32 36 90 00 33 31 88 28 33 48 89 50 31 34 91 77 34 25 89 20 33 33 88 48 38 32 22 90 53 34 10 89 20 38 56 91 00 37 35 93 30 38 56 91 00 37 35 93 30 38 38 94 89 33 36 40 10 92 12 37 25 93 30 38 38 94 25 37 12 94 23 37 25 93 30 38 38 94 25 37 25 93 30 38 38 94 25 37 25 93 30 38 38 94 25 37 25 93 30 38 38 94 25 38 38 94 25 38 37 25 93 30 38 38 94 25 38 38 94 25 38 37 25 93 30 38 38 94 25 38 38 38 94 25 38 38 94 25 38 38 94 25 38 38 94 25 38 38 94 25 38 38 94 25 38 38 94 25 38 38 94 25 38 38 94 25 38 38 94 25 38 38 94 25 38 38 38 94 25 38 38 38 26 38 38 38 26 38 38 38 26 38 38 38 26 38 38 26 38 38 26 38	228 250 227 282 282 187 264 450 369 244 116 1,000 603 992 765 840	43-3	43-4	51-8	49-8			55-1	53-9	57-2	48-0	48.2	55-1	59-2	45-3	68- 3	26.5	54.6	55-2	71.3	56·2 48·9	5
Anton Church Hill Columbus Cayette Frenada Natchez Nat	32 36 90 00 33 31 42 91 16 33 34 88 28 33 48 90 27 33 33 48 90 27 33 30 88 48 38 22 29 90 26 38 56 91 00 38 56 91 00 37 35 93 30 37 37 99 90 26 38 36 37 37 99 33 39 39 39 39 39 39 39 39 39 39 39 39 39 39 90 37 39 39 39 39 39 39 39 39 39 39 39 39 39	228 250 227 282 282 187 264 450 369 244 116 1,000 603 992 765 840	43-3	43-4	51-8	49-8			55-1	53-9	57-2	48-0	48.2	55-1	59-2	45-3	68- 3	26.5	54.6	55-2	71.3	56·2 48·9	5
Anton hurch Hill olumbus fayette frenada Natchez Axford tarkville /icksburg Vater Valley /azoo Missouri slolivar Jonville arthage enterville chillicothe dinarisonville lerinann ronton Lansas City kirkaville extington ouisiana fiami	32 36 90 00 33 31 42 91 63 33 31 42 91 63 33 34 85 85 85 84 84 85 33 32 49 90 26 33 32 49 90 26 33 36 50 91 60 33 36 50 91 60 33 36 50 91 60 33 37 27 90 59 33 36 36 36 37 35 93 37 35 93 37 37 37 37 39 38 38 38 38 38 38 38 38 38 38 38 38 38	228 250 227 282 282 187 264 450 369 244 116 1,000 603 992 765 840	43-3	43-4	51-8	49-8			55-1	53-9	57-2	48-0	48.2	55-1	59-2	45-3	68- 3	26.5	54.6	55-2	71.3	56·2 48·9	5
Anton Church Hill Columbus Cayette Trenada Natchez Nat	32 36 90 00 33 31 42 91 16 33 33 88 28 33 48 89 50 31 34 91 97 34 25 89 20 38 36 90 26 38 56 91 00 37 35 93 30 38 36 90 26 38 36 91 29 38 37 25 93 30 38 38 94 25 37 12 94 23 37 27 90 59 38 38 94 25 37 12 94 23 37 27 90 59 38 38 94 25 37 12 94 23 37 27 90 59 38 38 94 25 37 25 93 30 38 38 94 25 37 25 93 30 38 38 94 25 37 25 93 30 38 38 94 25 37 25 93 30 38 38 94 25 37 25 93 30 38 38 94 25 37 25 93 30 38 38 94 25 37 25 93 30 38 38 94 25 38 38 94 25 38 38 94 25 38 38 94 25 38 38 94 25 38 38 94 25 38 38 94 25 38 38 94 25 38 38 94 25 38 38 94 25 38 38 94 25 39 30 30 30 30 30 30 39 39 30 30 30 30 30 30 30 30 30 30 30 30 30	228 250 227 264 450 369 244 116 116 1,000 975 840 975 975 466 640 1,100	43-3	43-4	51-8	49-8			55-1	53-9	57-2	48-0	48.2	55-1	59-2	45-3	68- 3	26.5	54.6	55-2	71.3	56·2 48·9	5
anton hurch Hill columbus 'ayette irenada Natchez Natc	32 36 90 00 33 31 32 91 07 33 33 48 89 50 33 34 89 90 26 33 32 49 90 26 38 56 91 00 33 37 35 93 30 48 93 37 32 94 95 37 37 25 93 30 48 93 37 37 25 93 25 93	228 250 227 282 282 284 450 369 244 116 1,000 765 840 1,100 1,100 1,100 1,100 1,100 1,100 1,100 1,100 1,100 1,100 1,100 1,100	43-3 43-6 45-6	43.4 43.4 38.1	52.8 51.8 51.8 23.1	21.1	40-7	33-7	55-1 30-3 36-7 42.5	53-9	39.6 43.2	61. 2 48. o 33. 9 49. 4	20.9 20.9 23.1	28-3 37-1	59-2 51-5 28-4 42-3 41-0	34-8 34-4 42-9	24.8 29.3 37.5	26. 5 25. 8 30. 2	54.6 61.4 40.2 58.3 42.2 43.4	30-9 34-9 37-3	61-1 71-3 40-9 58-4 42-7	48.9 44.9 21.5 44.7	36
Anton hurch Hill columbus respect to the columbus renada vatchez vatchez vatchez vater Valley respect sig Creek solivar sonville arthage centerville chillicothe diarrisonville lermann ronton tansas City kirksville extington ouisiana fiami bregon ciami recoccity tolia t. Louis edalia	32 36 90 00 33 31 42 91 63 33 34 85 85 88 48 33 32 20 90 26 33 32 49 90 26 33 32 49 90 26 33 32 49 90 26 33 36 56 92 45 37 27 90 59 37 37 27 90 59 38 8 8 8 8 90 32 37 27 90 59 38 38 41 91 28 37 28 90 39 36 37 27 90 59 37 37 39 40 92 37 37 39 40 92 37 37 37 95 93 90 37 37 56 91 32 37 39 18 93 16 93 37 56 91 32 37 38 38 38 32 39 31 68 32 31 68 32 3	228 250 227 282 282 284 450 369 244 116 1,000 765 840 1,100 1,100 1,100 1,100 1,100 1,100 1,100 1,100 1,100 1,100 1,100 1,100	43-3 43-6 45-6	43.4 43.4 38.1	52.8 51.8 51.8 23.1	21.1	40-7	33-7	55-1 30-3 36-7 42.5	53-9	39.6 43.2	61. 2 48. o 33. 9 49. 4	48-2 20-9 15-6 23-1	28-3 37-1	59-2 51-5 28-4 42-3 41-0	34-8 34-4 42-9	24.8 29.3 37.5	26. 5 25. 8 30. 2	54.6 61.4 40.2 58.3 42.2 43.4	30-9 34-9 37-3	61-1 71-3 40-9 58-4 33-4 42-7	48.9 44.9 21.5 44.7	34
Anton hurch Hill columbus fayette frenada sayette frenada satchez xxford tarkville ficksburg Vater Valley fazoo Missouri sig Creek solivar sonville arthage enterville chilicothe dinarisonville sernann ronton tarkayille sexington ouisiana fismi pregon ieierce City tolia te Louis eedalia helbina t, Charles	32 36 90 06 33 31 42 91 91 91 91 91 91 91 91 91 91 91 91 91	228 250 227 264 450 369 244 116 116 1,000 1,000 1,000 1,100	43-3 43-3 45-6 46-8	43-4 38-1 47-1	51.8 51.8 23.1	21.1	40-7	33-7	30·3 36·7 42·5	53-9	57·2 39·6 43·2	61.2 48.0 33.9 49.4	20.9 15.6 23.1	28.3 37.1 48.3	59-2 51-5 28-4 42-3 41-0 38-0	34-4 34-8 34-8 34-9	24.8 29.3 37.5	26.5 25.8 30.2	54.6 61.4 40.2 58.3 42.2 43.4	30-9 37-3 41-4	61-1 71-3 40-9 58-4 43-3	56.2 48.9 , 44-9 21.5 44-7	34 34 44
Anton hurch Hill columbus ayette irenada Natchez Natchez Natchez Natchez Natchez Natchez Natchez Natchez Natchez Natchez Natchez Natchez Natchez Natchez Natchez Missouri Solivar Soonville arthage enterville hillicothe Edina ireenfield iarrisonville iernann ronton Cansas City Kirkaville exington outsiana fiami bregon ierce City tolla t. Louis edalia thelbina t. Charles t. Joseph teetville	32 36 90 00 33 31 42 91 16 33 32 88 28 33 48 89 50 33 34 89 90 27 33 33 99 90 26 38 56 91 00 38 56 91 00 38 56 91 00 38 56 92 45 37 35 93 30 38 40 92 36 37 35 94 40 38 36 36 92 37 39 39 39 30 39 39 39 39 39 39 39 39 39 39 39 39 39 3	228 250 227 282 282 282 187 264 459 244 116 1100 603 992 765 840 1110 919 710 975 466 640 1110 1110 1110 1110 1110 1110 1	43-3	38-1 47-1	51.8 51.8 23.1 30.9	21.1	40-7	33-7	30-3 36-7 42-5	22.2 23.3 33.0	39·6 43·2 68·8	61.2 48.0 33.9 49.4 61.3	20.9 29.9	28-3 37-1 48-3	59-2 51-5 28-4 42-3 41-0	34-4 34-8 34-4 43-9	24.8 24.8 40.6	48-7 25-8 30-2 37-5	54.6 61.4 40.2 58.3 42.2 43.4 46.9	30-9 34-9 37-3 41-4	61.1 71.3 40.9 58.4 43.3	56.2 48.9 44.9 21.5 44.7 37.7	36 33 41 45
Anton Church Hill Columbus Cayette Frenada Natchez Nat	32 36 90 06 33 31 32 91 07 33 33 48 89 50 33 34 89 97 37 33 33 98 45 39 39 39 39 39 39 39 39 39 39 39 39 39	228 250 227 282 282 282 283 294 294 369 244 369 369 369 369 369 375 3840 375 375 385 385 385 385 385 385 385 385 385 38	43-3	38-1 47-1	51.8 51.8 23.1	21.1	40-7	33-7	30-3 36-7 42-5	53.9	39-6 43-2 68-8	61.2 48.0 33.9 49.4	20.9 20.9 29.9	28-3 37-1 48-3	59-2 51-5 28-4 42-3 41-0	34-4 34-4 43-9	24.8 29.3 37.5 40.6	25.8 30.2	54.6 61.4 40.2 58.3 42.2 43.4 46.9	30-9 34-9 37-3 41-4	61.1 71.3 40.9 58.4 43.3	56.2 48.9 44.9 21.5 44.7	36 33 41 45
Anton hurch Hill columbus fayette irenada Natchez Naford Natchez Natord Nater Valley (azoo Missouri Solivar Sonville Carthage Senterville Hillicothe Edina Inrisonville Iernamn ronton (ansas City Kirksville Extington Jouislana fregon Jouislana fregon Le Louis Ledalia the Unis Ledalia the Louis Ledalia helbina the Louis Ledalia helbina the Louis Ledalia Mondana Sasinaboine, Fort Lenton Feer	32 36 90 06 33 31 32 99 16 33 34 88 88 88 88 88 88 88 88 88 88 88 88 88	228 227 282 282 284 450 369 244 116 1,000 603 992 1,150 1,15	43-3	43-4 43-4 47-1	51.8	21.1	40-7	33-7	30-3 36-7 42-5	53-9	57·2 39·6 43·2 68·8	61.2 48.0 33.9 49.4	20.9 20.9 15.6 29.9	55-1 	59-2 51-5 28-4 42-3 38-0	34-4 34-4 43-9	24.8 29.3 37.5	26.5 25.8 33.2 37.5	54.6 61.4 40.2 58.3 42.2 43.4 46.9	30-9 34-9 34-9 41-4	61-1 71-3 40-9 58-4 42-7 43-3	56. 2 48. 9 44. 9 21. 5 44. 7 37. 7	36 33 41 45
Anton Church Hill Columbus Cayette Frenada Natchez Nat	32 36 90 06 33 31 32 99 16 33 34 88 88 88 88 88 88 88 88 88 88 88 88 88	228 227 282 282 284 450 369 244 116 1,000 603 992 1,150 1,15	43-3	43-4 43-4 47-1	51.8	21.1	40-7	33-7	30-3 36-7 42-5	53-9	57·2 39·6 43·2 68·8	61.2 48.0 33.9 49.4	20.9 20.9 15.6 29.9	55-1 	59-2 51-5 28-4 42-3 38-0	34-4 34-4 43-9	24.8 29.3 37.5	26.5 25.8 33.2 37.5	54.6 61.4 40.2 58.3 42.2 43.4 46.9	30-9	61-1 71-3 40-9 58-4 42-7 43-3	56. 2 48. 9 44. 9 21. 5 44. 7 37. 7	36 33 41 45

869	, 1t	870	Pentad mean.	1871	1872	1873	187	187	Pentad mean.	1876	1877	1878	1879	1880	Pentad mean.	1881	1882	1883	1884	1885	Pentad mean.	1886	1887	1888	1889	1890	Pentad mean.	1891
7·3	3							12./	3 39.6	42.7	45.0	12:1	42.2	40. 2	44.7	41.0	27.4	24.8	51. T	75.0	37×0 40.0	47·6 49·4	46.0 51.9	57·6 59·9	53. I 58. o	54.6 54.1		45.6 47.8
•••		••••	· • • • · ·		•••••		· · · · ·	36.6	5	44.5	44. I	55.4	41.1	37.3	44.5	43.8	38.9	33.5	48.2	43.3	• • • • •	• • • • • •	• • • • • •	• • • • • • •	· • • • • •		· • • • • •	41.1
 						52.2	41.	2 42.6		48.2 46.8	50.9 46.8	50.2	37.0	31.3	43.5	38.1		• • • • • •	1				'••••	45. I 49. 5 61. 8	46. I 48. 0	51.2	• • • • •	45-4
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· · ·				24.3	25·5 32·6	34.2	26. 31.	5 35·6	29.2	42.2	25.2	40.3 43.4 32.9	27. O		10.7	52.7 45.5 48.4	30.2	32 · 6 30 · 0		28.2 31.3	32.9 38.6	26.6 32.4		29·1 26·0	21. I 26. 9	34·9 30·0	28· 1 27· 6	
• • •		••••			32.5	· 28. 🖠	32.	ວ 28-າ	33.8	46-4	36.1	33.7	35∙5	44-5	39.2	47.9	42-1	44.9						26· o	24.1	32.2 26.5	30. 1	26.2
· · ·			•••••									46.1	39.2			40. I	33.6	36.3	40.0	40.5	38. I	32.2	34.5	29.6 28.0			33·8 31·8	34 5
9	3.	7·7 3·5		35.5	26.9 31.8	44.2	26.	5 ∣ 3/8-2	27·5 35·2	30·4 43·9	37·3 44·0	32.0 40-5	26.8 40.6	43.8	34·1 42·4	34·7 47·2	32.9	48.5 42.4	36.3	35.0	37.5	'		, 26.7	• • • • • •		28.6	29.2
•		••••			30.3	26.3	25.	30.1	. ;	31.4	27.7	36.1	40.6	33-4	33.8	42.9	37.2	30.4	41.2	28.2	36.0	23.2	15.2	35.5	30.3	34.6	31.1	33.7
5	34	4.1	33.5	27.3	24.8					· · · · · · · · · · · · · · · · · · ·	42. I	36.9	39-2				35·9 44·3	40.2	37.1	37.1	39.0	31.8	35.1	29.8	28.8	39-1	32.9	33.0
5	4	8.9	••••	32.9	28.7	39.9	36.	37.6	35.1		34.0				42.1			67.8						27.6	25.8	35.9	29.6	29.7
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•••	30	0.8		25.0	20.8	28. I				• • • • •				• • • • • •	' • • • • • •						••••		· · · · · ·					
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9 	23	3.9	26.4	18.8	30.0	25. 1	19.	21.5	23.0	21.5							29.9	27.3	31.7	28.8		34· I	23. I 22. 7	21.7 28.1	20.6		25.7	
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2	3	2-1	31.0	30-7	29.6	34.6	35•	5 30- 7	32.2	23.6	28.7	22.6		29.8	27 · 4	39.2 15.6	23.1	26.5 17.9	26. I 21. 7	.25·3 16·5	28.0 18.8	22.9 15.2	25.9 18.5	25.8 17.2	17.1	23·5 22·1	23.0 17.5	
9	26	6.1.	• • • • •	21.8	17.0	18.8	18.	28.2	20.9	19-3	44.2	27.2	36.0	23.9	30.1	26.9	21.9	30.3	27.5	24.5	26.3	26.1	29- I	30.8	14.9	28.8		23.1
•		••••			· · · · · · ·		62.	7 73.8	3	54.0	73· I	68.5	61.8	į										54.6		58.6	49-5	• • • • • •
•	49	9.8	55-2	l	· · · · · · · · · · · · · · · · · · ·	60.3			}			61.7 54.5	55.2	66.8	57.6	55.7	61.2	53-4	63.0	47.0	56. 1	48.1	44-4	55-8		66.2 59.2	50.2	56.6
7		0.6		<i>(</i>	l	=]	•••••	
		••••	• • • • • • • • • • • • • • • • • • •		58· o	41.6	66.	70.1		51.7	53.0	60.9	52.3	84.3	60.4	51.9	71.5	63.7	72.8	47·9 54·3	62.8	48.7 55.8	36·7 42·3	56.7	45·3 41·2	55.1 52.3	48.5 48.0	50.7
•		••••			·	•••••				· · · · · · · ·						· · · · · · · · · · · · · · · · · · ·						56.9 51.0	42·7 38·5	51.5 55.2	39·3 36·8	58·5 53·5	49.8 47.0	53·5
1	•••	••••	••••			· • • • • • • • • • • • • • • • • • • •						32.0 33.6	22.2 29.6	27.8 32.0	· · · · · ·	36.6 40.5	39.8	39· o	·	ii	•••••	·	' · <u></u>					;
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0		• • • • •		·····		·····		· · · · · · · ·		45.7	37.3	38.2	30. 9 33. I	24.3 31.8	37.2	39. I 34. 8	29.6 46.1	36.7 26.2	38·3 46·4	40.0	38.7	34.2	31.3	34·7 43·3	42·5 39·7	29. I 30. 2	35.7	34.6 3 9.2
• •		• • • • •		35-5	· · · · · · · · · · · · · · · · · · ·	32.4	•	· · · · · · · ·		 i		41.2 28.1	42.8 34.9	50.5 39.2 26.0		44.8 36.2	46.7 29.2	56.6 43.9 35.0	45. I 42. I 34. 3	43.2 49.5 26.2	47·5 40·2	35.0 19.1 22.2	33·4 35·6 26·2	40.8 63.8	43·5 42·2	63.2 36.7	43.2 39.5	
··									33.0	41.2	56.7	43.2 31.2	30.6	33.3	41.0	28·4 38·6	41.5 41.1	43·3 35·2	39·0 39·4	37.8	38.0	23.8	35.9 25.8		•••••	23.5		26.8
2	20	9.6	38.4	28.5	35.8	27.5	32.	1 32.2	33.0	41.4	41.3	34 · I	38.8	34.3	38.0	41.9	32.6	46.9	38.9	29.6	38.0	30.3	33.3	40. I	33.5	25.2	32.5	39.9
9	21	2.4		1 22.2	12.2	20.0	1 24.0	50.2	2 1 2N.O		' '																	
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· • ·	• • • •		• • • • • • • • • • • • • • • • • • •						,	43.7	27.3	33.4	44.2	2/13	44.5	41.0				33.3		33.9	33.3	38. ı	33.9	38.5	35-3	30.7
				1		10.7	12.	7		17.1	16. q	IQ- 2	13.5	9.5	15-2													
3	1		· · · · · ·	.3.3			19.	7 19.5		18.6	15.7	21.4	21.1	30· c	21.4	17.3	19.6	16.4	22.0	32 6	21.6		•••••					

TABLE I.—Annual

s	tate and station.	Lat. N.	Long. W.	Elevation	1851	1852	1853	1854	1855	Pentad mean.	1856	1857	1858	1859	1860	Pents d mean.	1861	1862	1863	1864	1865	Pentad mean.	1866	1867	180
	Montana—Cont'd. Leogh, Fort	0 /	0 /	Feet. 2, 372																					:
M	laginnis, Fort	47 10	100 06	4. 310																		•••••			
P	lissoula, Fort oplar River	48 08	105 10	2,002				••••					••••												
SI	haw, Fort irginia City	47 30	111 48	3,550			• • • • • •	•••••	ļ		•••••		• • • • •	• • • • • • • • • • • • • • • • • • • •			• • • • • •	• • • • • •	• • • • • •		•••••	• • • • • •	• • • • • •	• • • • •	IO
	Nebraska.	1	i	3,000	•••••		•••••						•••••				ı				ļ 		••••		1
C	entral City lear Creek	41 16	98 15	I, 150		••••							• • • • • • • • • • • • • • • • • • •											`	•
C	ornlea	41 45	97 30	1,742				·····																	
D	rete De Soto	41 28	96 03	I, 364 I, 100									· · · · · · ·					•••••	••••						3
F	'airbury 'remont	40 08	97 08 95 27	I, 318 I, 204	•••••		•••••							• • • • • •				••••			•••••			•••••	
r	'orest Home	40 06	99 40					·			[·
H	enoa	41 45	97 40	1,585														}							
Н	lay Springs lebron	42 40		3,834			• • • • • •		•••••		•••••		•••••				• • • • • •				•••••	•••••	•••••		•••
Н	loward	40 30	95 56		·							l										' • • • • • •			٠
M	larquette IcPherson, Fort	40 58	98 00	1,830		•••••							••••					•••••							
M	linden	40 30	98 56	2, 190											` .									1	
N	ebraska City iobrara, Fort	42 53	95 49 100 25	1,005 2,483																					
N	orth Platte maha	41 08	100 45 95 56	2,841		•••••			•••••				• • • • • •							·····	•••••		• • • • •		
R	avenna	41 02	98 54	2,008			¹. 							!											
Si	obinson, Fort idney Barracks	41 00	103 24	4,096									• • • • • • • • • • • • • • • • • • •												
3	yracuse	40 39	96 09	1,059																					
W	ecumseh Vest Hill	41 33	95 II 97 49	1, 130									•••••												
K	alentine Learney, Fort	42 54	100 25 99 01	2,579 2,360	26.5	20.5	20.0	26.8	25. 1	25.6	, 29.0	28.7	26. I	16.2	16.9	23.4	19.4	22. I	• • • • • •		•••••				·
	Nevada.	1	1	:	-		30.0	-0.0	3	-3.0	1	,	20.1		20.9	-3.4	29-4								
В	attle Mountain eowawe	40 34	116 52	5, 311 4, 695	¹		• • • • • •								ļ								•••••		
в	rowns	40 OT	118 41	3,929									• • • • • •							• • • • • •					
C	arlin	39 08	110 07	4,897											' 										:::
U	eda r Pass Iko	41 08	114 50	5,065				<u>`</u>		†····			•••••	••••					•••••	•••••			¦· · · · ·		
G	olconda	40 57	117 34	4, 392		'. 		ļ		·						ļ						! 		1	•
H	lalleck	40 58	115 27	5, 229 4, 072		• • • • •							• • • • • • •				'		•••••			!		ì	
H	lot Springs lumboldt ron Point	40 38	118 14										•••••												
M	IcDermit Camp	41 58	117 30	4,700				·								l			·					1	. 1
P	tegoalisade	41 09	114 36	4,840	• • • • •	•••••	9		1				• • • • • •	••••			•••••					••••	•••••		١
P	iocha	27 56	114 26	6, 110	`. 	l	l													I	١				
Ť	eno ecoma oano	39 33	114 07	4,497	· · · · · · ·	· • • • • • • • • • • • • • • • • • • •								'		! .				::::::					· '••
T	'oano Vadsworth	41 07 39 38	114 26 119 19	5, 957	• • • • • •	•••••	•••••					•••••	• • • • • •	¦. .					•••••						• • •
W	Vell s	41 07	114 56	5,628		¦				ļ										ļ	!				
	Vinnemucca <i>New Hampshire</i> .	40 53	117 50	4, 358					• • • • • •				••••			• • • • • •	• • • • • •	• • • • • •	; • • • • • •		ļ			•••••	
A	ntrimshland	43 02	71 55 71 38	••••			<u>'</u>		·	•••••			• • • • • •					••••	••••	• • • • • • • • • • • • • • • • • • • •					
в	elmont	43 27	71 30		'				1								1								
B	erlin Mills ristol	43 34	71 16	1,011	•••••																	' !			
C	laremont oncord	43 24	72 21	520		1	1	1	1		1	1	.		1	1	46.7	38.6	44.3	43.0	45-4	43.6	47.6	43· I	1 3
C	onstitution. Fort.	43 04	71 33 70 57	40	45-4	42.5	45.0		·		37.0	39.0	40.2	35.2	30.1	37.6	42.0	47.0	54.4	30.7	39.2	44.5	37.2	40.1	. ;
D	ontoocook unbarton	43 15	71 40 71 35																						
н	lanover	43 42	72 17	530	41.6	35-9	37.5	34.6	40.3	38∙0															
M	ake Village [anchester	43 33	71 30 71 28	180					' · · · · · · ·	;		46.3	41.8	44.7									39.7		
	Iount Washington			6, 279	·			• • • • • •		•••••			• • • • • •	¦		••••		•••••			•••••				
81	tratford	44 40	71 39	1,000		·			ļ					35-3	30.8		45.2	40· I	44-4	41.8	38.4	42.0	50-5	41. t	3
W	Valpole Veirs Bridge	43 36	71 20	750 530 180 6, 279 120 1,000 277			·						• • • • • • • • • • • • • • • • • • •			<u> </u>									: ::
W	Vest Milan Volfboro	44 35	71 15	996			' • • • • • • • • • • • • • • • • • • •	ļ. .		i			• • • • • •					¹ .	¦	·····	• • • • • •				• •
W	Voodstock	43 57	71.42	749				,					· · · · · · ·					,							
A	New Jersey. tlantic City	30 22	74 25		i .	l		í	1		1	1		1	1	1	Ī	1	į.	i	ł	1	1	1	
ь	arnegat City	30 46	74 06	22															ļ						• ••
В	everly loomfield	40 48	74 12	120	36.0	40.6	49.7	37.7	32.8	39-4	27.3	72.2	36.0					43.0							
C	ape May hester	38 56	74 58 74 57	27												ļ				12.2	46.8		40-2	45.0	1:
Е	gg Harbor City	30 30	74 37	70	·····	,	1						•••••		1	44.7	į			·		ļ		40.0	
G	reeholdreenwich	30 24	75 20	30			· · · · · · ·														43.7		37.6	43. I	4
Н	addonfield ambertville	30 53	75 02	50	72 5	AE	42.0		45.2											43.7	55.2		37.7	57.9	ļ 5
M	loorestown	30 58	74 57	104		45.3	44.0	43.4	45.2	41.0	32.3	40.7	40.3	47.7									40.3	51.9	
N	ewark ew Brunswick	40 44	74 10	35 48	41.3	43-4	52.3	43.5	44.4	45.0	34.5	49.5	40.3	57·1	42.1	44.7	43.6	44.5	47.9	38.7	52.3	45.4	39.9	54.7	15
N	lew Germantown.	40 41	74 45	320	•••••							74.3		-43.1	ļy	44·7 41·8	. 								. ! . :
S	aterson andy Hook	40 28	74 00	28			·····	;													67.8		48.5	58. I	5
80	omerville outh Orange	40 34	74 36	80				•••••							ļ										
т	renton ineland	40 14	74 45	60							· · · · · · · · · · · · · · · · · · ·	,					· · · · · · · · · · · · · · · · · · ·						54-8	60-0	5
	ineland	30 20	75 OI	IIQ	·											7.1									. 5

369	187	70	Pentad mean.	1871	1872	1873	1874	1875	Pentad mean.	1876	1877	1878	1879	1880	Pentad mean.	1881	1882	1883	1884	1885	Pentad mean.	1886	1887	1888	1899	1890	Pentad mean.	1891
					••••		••••					15.2												13.0 25.8	10.2 13.8	11.5	11.9	14.2
•••			••••	16.3	16.4	16.4		28.5						·	' • • • • • •	20.6	13.2			' • • • • • •		15.4	13.6	7.6	9.1		11.8	
4	9.	2 .	•••••	5. 1	7·3 9·8	6.9	4·3 16·2	5·5 17·3	5.8	14·7 17·5	8.3	16.3		11.3		15.0	14.3	12.6	13.7	12.6	13.6	16.9				12.3		• • • • •
••	····	· · · ·				•••••		26.5	• • • • • •	25.7	36. I	33.4	25. I	23.8	28.8	38.6					•••••		24.0	••••	• • • • • •		22-1	
4	26.	6 i.		37.0	34.4			39-3						' 		28.3	22.5 26. I	37·2	22.8 41.0	26.2		27.6	26.2 23.3		17.5 28.6 20.3	26.6 22.0 24.6	23.7 24.9 24.5	36.3 38.5 30.6
								· · · · · · · · · · · · · · · · · · ·					· · · · · ·					34.3	39.9	26·7 30·6		30·5 29·5	17.2 22.2	26.9 23.6	28. 0 22. I	22.9	25. I 24. I	36.0
::			••••							32.0	30.8	24.2	16.7	26.5	26·o	31.0	22.6	27.6	27.8 32.9	23.2	27.5			18.6 29.2		15.4 22.3		37 • 5
• • •		•••	••••	••••				ļ		` <i>.</i>	•••••			·							••••	18. 3 28. 4	22.8 31.3	21.2 33.6	19.3 38.8	16.0 21.6	19.5 30.7	23-3 40-0
1	18.	6	••••	20.0				20.5		• • • • • •						28.5	21.2	24.8	31.6	29. I	27.0			19.4	31.5	11.7	22.5	40. I
	27.	3 .	••••	••••	• • • • • •	• • • • • •	• • • • • •		••••		•••••			25.8 29.4		38.6 28.6	29.2 28.7	32.8 42.3	32·3 32·3	34.6	36.0 33.3	36.8 27.5	26.3 19.2	33·3 28·5	41.0 23.2 18.1		30.6 24.5 17.2	42.7 38.4 23.8
	24.					1		15.3 43.0		12.0	25.5	18.6	20.0	17·5 28·5	18.7 33.9	23. I 45. 7	17.8 37.6	30. I 48. 8	13.4 47.6	22.2	21.2	12.1	19.9	17.4	20.7	12.8	17.1 22.3	23·4 35·0
•••	••••							21.8								37.8			23.6 13.9	25.6 18.9	27.1	25.9 11.0 7.5	27·4 25·1	26.7 17.6 10.7	24.0 14.0 14.7	19. I 11. 7	15.9 11.6	36.0 18.7 26.2
													37.2	29.7		28.9	30-8	40.3 46.0	27.6 33.6	33-4	34.5	25.2 34.6	21.2 28.2	29.2	23·4 37·I	21.4 19.8	24 · 1 30 · 5	31.3 42.0
• • • •	••••	· · · · ·	· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·			· • • • • • • • • • • • • • • • • • • •	· · · · · · · · ·		· · · · · · · · · · · · · · · · · · ·				23.5		30. 1	22.5	23.8	24-1	19-2	23.9		29·2 17·9		19.6	19.7	23.5 19.0	32·4 27·8
	; 4.			3.9	6.4		7.5	8.6		5.9	6.7	7.3	4.4	4.8		6.2	10.1	6.7	13.9	7.4	8.9	7.5	6.0	9.7	5.6	6. I		10.8
• • • •	 ه	• • • •		4·4 5·5 5·8	2.5	4-7 3-2 6-1	7·1 3·5 5·4	9·5 4·0 10·9	3·7 7·0	6.7 3.5 5.5	8.7 3.6 8.7	7.0 6.2 7.4	8.6 4.7 6.4	5·3 3·3 4·7	7·3 4·3 6·5	5.2 2.6 7.8	6.5 2.5 8.7	4-4	11.0 5.2 14.7	5. I 8. 5	6.9 3.9 9.5	4.8 2.0 6.4	2·2 4·2 5·9	8.0	4·4 3·0 10·7	6.3	5·3 3·5 8·0	4.2 14.1
•••	•::::	'. . <u>.</u>	• • • • •	7.8	12.9	12.4		17.7	12.7	9. I 17. O	10.9			13.0		10.4	11.3	6.9		11.4	11.6	10.8	8.5		11.8	13.3	10.5	18.0
		· · · ·	• • • • • • • • • • • • • • • • • • •	5·2 7·3	0.9	4·9 5·4	3.6	4·2 5·9	3.9	5.0	5·4 4·5	3.8	5.9 9.6 13.9	3.3 6.6 8.1	4.7 8.5	5·5 3·5 4·7	7.2 7.8	1.3 4.6 6.4	12.8 10.2 8.7	7·3 4·0 6·3	6.3 5.9 6.8	7.0 4.2 6.7	4·4 3·2 4·6	7·1 5·4 5·0	3·3 8·6	6.4 6.1	4·5 6·2	9.8 15.0
••••		· · · ·		5.5	4.7	5· I	4.5	4.5	5.8	4.8	2.6 4.6	4.9 6.5	4·8 7·1	2.8 3.8	3·5 5·4	2.9	5.0 9.1	2.8 7.0	4·2 5·0	2.9 6.2	3.6 6.9	3·4 2·6	2.2 3.2	2·1 1·9	1.5 4.2	11.9	4.8	4·4 7·6
			· • • • • • • • • • • • • • • • • • • •	10.3	4.7	, ,		12.4	7·9	5-3 10-4	7.9 8.7	6.8	9·7 6·4	8.8		6. o 8. 4	8.5 9.1	48.4 7.1	31.9 13.2	9-4	20.8	11.5 8.3	25. I	21.3				
• • • •		• • • •		4.9	4.1	2.7	5.7	6.0	4-7	7.5	5.6	8.4 6.2	9·4 7·1	4.7		5.3	9·7 8·4	5·4 	12.3	8.9 	9·7 5·0	4-1	4· I 5·8	4·3 16·8 4·7	8.6 27.4 6.5	16.1	 5·7	10.2
	4.	2 '.		5.9	10-4			٠٠٠٠٠	7.3	8.2	3.5	2.3 5.5	2. I 2. 7	1.7	4.9	5·9 2·7 1·8	5·5 4·5	4.2 7.7	10.3	5. I 10. 0	7.0	4.6 16.9	4·5 6·6	6.1	5.5	6.7	5.5	13.0
• • • •	8.	8.	•••••	4.0 9.7 6.8	0.7 10.5 6.1	1.9 14.7 6.6	17.3	3.9 15.8 9.8		2·3 12·3 5·5	4·3 5·1 6·4		3.8 5.6 9.4	3·3 3·9 6·4	3.7 6.2	5·1 5·1	3-4 13-7 10-4	2.9 9.9 8.3		3.5 9.6 11.8	10.1		6.8 3.4 8.1	4·5 4·8	5. I 5. 7	5.8 11.4	5·2 7·6	7.6 9.6
		.				·						·	43.9	Ì	:	53.9		39.7	l				53.9	61.6	45.8			
• • • • •	· · · · · ·							· · · · · · · · · · · · · · · · · · ·			42.7	47·4 46·3	40.0 43.7			42.2			46.8 40.7		44·1 38·3	44·9 41·2 29·8	45·7 45·3 40·8	49.8	42·7 38·7	50·0 51·3	45-8 39-3	
	·		-0.2												·	' .			44.3	٠		45.9	46.2	51.7	44.1			
• • • •	• • • •	• • • •	••••				-0	40·7 39·8		• • • • • • • • • • • • • • • • • • • •		•••••	•••••		•••••				••••	· • • • • • • • • • • • • • • • • • • •	70.0	• • • • • •		••••	• • • • • •	• • • • • •	• • • • • • •	• • • • • •
7-2 0-9	42. 30.	9 .		42.2 24.2	59·4 32·9	40.9 33.4	37·5 30·8	39.6 45.4 32.7	45· 1 30· 8	52·7 30·4	47·2 35·8	62.3 27.6	51·4 33·5	24.9	30.4	27.3	26.5	24.6	29.5	36.7	28.9	29.5	41.1	45.5	37.5	44.9	39-7	32.3
								55.7														67.4						
3. o	37 -	8	43.0	37.9	50.5	38.8				'												42.2	47·7 35·3	50.8	42·2 36·2	53.0 43.8		31.2
••••	·	· • • · ·			'		· • • • • •	· · · · · · · · · · · · · · · · · · ·			41-1	47.0	42.6	36.4		46. I	35-9	37 · 7	38-5	41.8	40.0	42.9	42.7	49.5	40.8 36.1	52.2 48.7	45.6	41.8
• • • •	••••	· · · ·									40.7	39.6	36.3	33.3		41.9	36. 1	41.0	44.7	49.4	42.6	44.9	51. I	54.9	42.0	53· I	49.0	42.7
	::::	· · · · ·				·····	34·1 55·9	39·9 46·8		35·9 47·2	36.4 48.2	42.0 52.1	47·4 49·5	46. I 49. 0	41.6 49.2	39·9 53·4	55·3 72·9	44·5 42·9	53·5 34·4	38.4	46.3 46.2	44.9	37.9	44-1	38-8	47.3	42.6	43· I
• • • •																		· • • • • • • • • • • • • • • • • • • •			· · · · · · ·	49-2	47.0	40.7	58-1	45.1	49.8	50.2
···	42.	7	44.0	49-8	39-3	i		51.0															44-9	48-7	62.1	55.6	•••••	58-4
. . .	43-	8	42.7	40.9	36.9		38.9	46.9	`	40-4	45-4	50.2	47.0	44· I	45-4	50-1	49.2	47 • 4			• • • • • •	• • • • • •		53· I	70.6	59.6		50.7
	`					59-3		44.9															53.9	57 • 4	67.1	47.3		46·4 45·5
9 74	48. 53.	1	49·5 52·1	49.4 58.2	48·5 47·9	50-7	51.2 45.2	44·9 44·4 44·9	48.8 51.4	45·3 39·3	49·8 47·3	53·2 46·2	44·7 43·6	37·5 37·1	46. I 42. 7	38.8 38.4	51.7 48.5	42.6 43.0	47·8 48·4	43·5 36·6	44·9 43·0	48- 2 45- I	50-4 51-8	56-9 59-0	64.9 61.2	50.8 56.8	54·2 54·8	46.8 46.8
٠,	48.	T 1	52.4	52.9	39.0	40.0	40.7	41.0	44.0			• • • • • • •	45.8	eQ. 7	•••••	68 .	96.0	46.7	•••••	•••••	• • • • • •	• • • • • •	• • • • • •	••••				
•••				47.3	40.8	48.4	54.8	48-4 48-5 54-1 46-0	48.0	40.5	42· ī	47.2	42.2	37.6	41.9	38·5 38·8	42.8	37·8 41·2	45. I 50. 8	37·7 35·7	40.4 43.0	39. 1	52·7 46·6	56·7 67·4	80.9	53 3	57 · 5	54.3
٠٥.	40.	3	51.8	49 · 2	42.0	40.9	41.8	54· I 46· 0	48.2	42-8 51-8	50-8	50· I 48· 2	49.8 46.0	50.3	48-8	42.5	54.1	46.7	48.7	25.5	45.5	46.3	47.7	66+ I	07.4	51.0		48.8

TABLE I.—Annual

Number.	State and station.	Lat. N.	Long. W.	Elevation.	1851	1852	1853	1854	1855	Pentad mean.	1856	1857	1858	1859	1860	Pentad mean.	1861	1862	1863	1864	1865	Pentad mean.	1866	1867	1868
69 8	N. Mexico-Cont'd. Bayard, Fort	o / 32 46	108 30	Feet. 4, 450				· · · · · · · ·		•••••											! !		, 	13.9	15-3
700	Burgwin Camp Craig, Fort	36 30	105 40 .	7,900	' • • • • • • •		• • • • • •	• • • • • •																	
70I 702	Deming Fillmore, Fort	32 18	107 48	4, 327		12.6	8.9	6.2	7.4		9.2	10.4	 5- I	5.6	3.7	6.8					; 			•••••	
703 704	Gallinas Spring La Mesilla	35 15	104 31	4,800 4,124		·:		• • • • • •			· • • • • • • • • • • • • • • • • • • •			¦							: • • • • • • • • • • • • • • • • • • •				
705 706	Lava	33 33	105 59	4,703			¦	•••••								••••••	·	• • • • • •	• • • • • •	, 	· · · · · ·		· • • • • • •		
707 708	Santa Fe Selden Fort	35 42	10 001	7, 026 3, 500			21.8	24.9	24.3		23.2	8.5	11.2	9.5	8.9	12.3	15.8		7.8		23.1				8.9
709	Silver City	32 46	108 14	5.796				· • • • • •				'	. .		14.7	'		1					1		
711	Stanton, Fort Thorn, Fort Union, Fort	32 40	107 10	4,500	!	26.5		14.6	13.4		13.6	20.5	10.5	24.5									` -		
713	Wingate, Fort	35 29	107 45	6,982									•••••	-4.3							9.2			23.4	14.3
714	Albany	42 39	73 45	85			45.9	34· I	42.4	37.8	39- 1	41.6	34.0	31.9	32.4	35.8	36. 1	37.8	43-2	28.0	36.4	36.3	34.3	38.2	41.7
715 : 716	Auburn	42 55	76 2 8	290 650																					
717 718	Brookhaven Buffalo	42 53	78 53	690			` .						41.9	35.7	32.5		41.1	37.9	31.8	43.5	35.2	37.9		31.5	38.4
719 720	Cazenovia Charlotte	43 15	77 37	273					¹			!			25.7		33.4		24.8	35.0					
721 722	Cooperstown Depauville	44 06	76 06	350							34.4					41-4	40-7	38.0	47.0	30.0	35.3	38-2	32.2 48.0	34.5	37·3 43·5
723 724	Factoryville	40 39	73 56	40	40.9	47.5		46.2	50.8	47.6	39.8	48.3	43.3	58.9	36.1	45·3	46.3	• • • • • •	· · · · · · ·	33.3		· · · · · · ·			
725 726	Friendship Geneva	42 12 42 52	78 10 77 05					25.4	32.5		27. I	42.6	32.0	32.0	30.9	32.9	32.3	37· I				31.2			
727 728	Gouverneur Hamilton	42 40	75 34	400 1, 127	40.6	47.5	40.2	43.0	47.9	43.8	30.6	61.9	42.0	48.9	43.3	45.3	50.9	33.5		36.5	27.7		41.6		28.7
729 730	Honeymead Brook Humphrey	41 50	73 45	323																'. 	١				! • • • • • •
731 732	Hudson	42 15	73 45	150 417		36.2	55-5		76.4					·	'								·	' .	'
733 734	Janfaica Johnstown	40 41	73 56	30 688	38⋅7	35-4	46.4	43.5	43.2	41.4	35.0	38-7	36.7	59.8	31.1	40.3	37.4	46.8	43-3	39.3	·				
735 736	Keene Valley Kingston	44 05	73 50				ļ <u> </u>				,		. 					'					·		
737	LibertyLittle Genesee	41 45	74 45	1,467	50.2	47.8					33.6	55-5	30.0	54.6	45.0	45.7		. '							
73 ⁸ 739	Lowville	43 47	75 33	800	41.2	32.7		· · · · · ·	· · · · · · ·		!	47 · 3	34 • 4		36-⊥	!									
740 741	Madison Barracks. Mexico	43 27	76 14	262 375	53.8 40.9	39.7	40-5	39-4	48.7	41.8	42.3	57 · 3	39.4	48.7						• • • • • •		l ,			
742 743	New York City	40 43	74 00		45.4	43.7	52. I	45.2	43.9	45.2	38.5	40.6	37.4	62.4	46.0	45-0	57.0	53.3	57.0	48· o	62.7	55.6	51.5	54.7	64.0
744 745	Niagara, Fort North Hammond	44 23	75 45	262	••••							;	• • • • · ·			• • • • • •	• • • • • •	28.6	26.9	30.5	24.4	28.9	31.4 63.7	46.7	31.6
746 747	North Salem Oswego	43 20	70 35	361 335	35·3 32·2	39.0 32.7		· · · · · · ·	40.7 25.8			•••••	38-3	51.1	'¦	• • • • • • • • • • • • • • • • • • •	50.0	44.2	46. I	46.7	43.4	48.1	43.0	35.2	42-4
748 749	Oxford	43 20	76 22	961			48.3	39·3 34·1	33.9		35.8	44.9	39.6	51.3	44.9	43.3	47.8	47.0				47.7	49.0	33.1	38.8
750 751	Penn Yan Pierrepont Manor	43 48	76 02	617	26.8	29.9	25.6		30.0	26.2 30.9	21.6 28.5	44.4	26.9	29.2	25.6	29.5	32.7	31.6	40. I 39. 8	39.0	31.7			30.9	
752 753	Plattsburg Pompey	44 41 42 56	73 26 76 05	186 1, 300	36.≥		37.5									'									
754	Potsdam Rochester	44 41	74 57	394 621	25.0	35.2	32.5	20.4	34.0	31.2	28.6	45.3	36. I	32.7	20.8	34.5	35.6	38.5	30.4	40.8	35-2	36. 1	35.9	31.0	39.3
755 756 757	Troy Utica	42 44	73 37	58 518	30.0	31.9 50.0	39.2 42.7	31.1	42.2	34.9	36.8	38-4	36.4	36.4	37 · 1	37.0	41.7	38.4	48.3	33.4	34.6	39-3	31.7	37.0	42.4
758 759	Watervliet Arsenal West Point	42 43	73 50	50	34 · I 40 · 4	31.4	42.8	27.4	40.2	48.7	47.5	47.2	42.8			أ								• • • • • •	56.8
760	North Carolina.		1_								47.3	- 1				•		- 1				. !			
761 762		35 25	80 00	850		·										'	'. '							68.2	64.2
763 764	Charlotte	35 13	80 51 75 58	, 8oS			·											' i							
765 766	Goldsboro Greensboro	35 25	77 51	102																		'	· • • • • •	74.7	
767 768	Greenville Hatteras	35 38	77 21	7.5		·			1			'			'	!	'								
769	Kittyhawk Lenoir	36 00	75 42	1, 186	·				1	1													·		
770 771	Macon, Fort	34 42	76 46	11							'				l l							i			
772 773	Portsmouth	35 05	76 05										 .		l										
774 775 776	Raleigh Southport	33 55	78 OI	23						·	•••••														
777	Statesville (near) Weldon	36 24	77 30	18												!								• • • • • •	
778	Wilmington North Dakota.			52		•••••		•••••	: :				•••••		; - i	• • • • • • • • • • • • • • • • • • • •	•••••	•••••	•••••		•••••		•••••	·············	·
779 780	A. Lincoln, Fort	46 45	100 47	1,014		' .																·			
781 782	Buford, Fort	48 00	103 55	I, 900					·			!													11.5
783 784	Pembina	48 56 46 30	97 10 100 36	750 2,200						!	: 				ļ					•••••					
785 786	Stevenson, Fort Totten, Fort	47 35 47 57	101 30 98 57	1,655 1,565			 					•••••	 .				· · · · · ·							• • • • • • •	11-1
787	Yates, Fort	46 11	100 34	1,670										· • • • • •											
788 789	Bellefontaine Bethel			1, 169							: '		54· I	35-2	45.5					47.8	47.6		47.2	30. 1	45.0
790 791	Bowling Green	41 24	83 38	700									.	34.9			31.4	53.5	29.8				59.0	48.9	59.3
792		40 28	84 33				·					· '								••••			• • • • • •		
793 794	Clarksville Cleveland	39 25	84 12	1,010							25·3 26·0														
795																									35.6

precipitation—Continued.

369	1870	Pentad mesn.	1871	18	172	1873	1874	1875	Pentad mean.	1876	1877	1878	1879	1880	Pentad mean.	1881	1882	1883	1884	1885	Pentad mean.	1886	1887	r888	1889	1890	Pentad mesn.	1891
	10.0	·	5.7	, 13	.6	12· I	20.3	19.7	14.3	18.9	13-1	· • • • • • • • • • • • • • • • • • • •		ļ	, ,•••••	 .						10.6	13.6	13.5	7.2	16. o	12.2	10.5
1	9.0					5.9	8.9	13-4		11.9	12.5	5-3			·	•••••			10.0 7.8	6.6		11.4	11.5	9.0	0. T	11.5	10.5	4.5
-						• • • • • • •												•••••					19.0		13.0	• • • • • •	17.4	
1	• • • • •	٠,٠.٠٠				• • • • • •		' '		• • • • • •		8.2	7.3	6.9		15.0	'	·		9.4			7.8	15.6	9.3	• • • • • •		
	13.8		. 12.		6	9.8	19.9	19.0	14·1				11.5		13.8	22.3			12.3	15.0		15.9		12.1	7.8	12.9		5.6 16.7
	12.4		6.9		8	3.4	6.3	¦					13.8			30-8	19-3								7-1			••••
	10.4		. 13.6		7	17.6			20 ₁ I	المحجوبة		20. 1	6.4	18-1	16.7	22.5	12. 1	14.9	23.4	17.9	17.8	21.5		18.0 25.6	• • • • • •	11.8		
	16.7				•5	26. I			17.6		10.2				12.2		14.3		16.4	12. 4		12.4		11.4	10.7		15.9	14.3
	55-8	42.9	56. 36.			40.3	38.0 31.1	38·3 34·2	36.2		36·2 32·4	49-3 34-9	38.6 37.5	32.7 38.2	39.0 34.6	36.4	33.9		38.8	34-4	36.6		39.7	44.7	39-4	44-9	40.6	41.5
•	41.8				.6	45-4	39.9	47- I	43.8	44-6	40.3	41.5				27.7			27.7			48.0		44.3			• • • • • • • • • • • • • • • • • • • •	
	42.3	39.9	30-7	:		44.6	30.3	31.5	33-6	39-4	34.6	3	30-4	39.3	40.8	30.0	33.8	30.0	37.1	52.4	39.5	44.8	31.6	33.9	40.2	40.0	39.4	30.7
•	33.0 36.1		36-2			42.2 49.5	36·5 45·3		38.0 40.6	35· I		39.0	30-3	34-3	34.6	33-9	30-9	36. I	35-3	38-5	34-9	32.9	35.8	38-5	38.7	58.⁴1	40-8	41.2
				39	9.9	• • • • • •		` 	¦														29.8	28.9	41.0	48-3	35.5	36.4
						• • • • • •				•••••	25-4	41.1	33-6	31.9		37 · 3	33.0	38-0 25-8	22.2	24.0		27.8	22.5	33·9 27·4	33.3	39∙5	30. 1	33.9
	30.8		20.	27	7.8	37.9	32.9							¦				•••••	26.0	~9 6		24.5	45.3	42.7			42.0	
•						• • • • • • • • • • • • • • • • • • •		'											36.9 48.8				45·2 38·3	42·7 39·1	43.8	48 · I 59 · 4	42.9 43.9	35.8 45.1
:					•••			30.5		34-5	23.4	38.8			28.4	32.8 42.2	29·9 44·4	35·4 33·9	34.2	35.1	33-5	33.0	30-7	31.0	41.6	46.3	3 6 · 5	37.8
	••••					• • • • • •	`								• • • • • •	30.6	27.4	29.0				 				41.2		
•	••••	• • • • • • • • • • • • • • • • • • •				• • • • • • • • • • • • • • • • • • • •	•••••			•••••		i				` 		• • • • • • •		· • • • • • • • • • • • • • • • • • • •					49.6	47 - 4		·····
	44.5		37 .		5. 1	47.9	~~~~				70 A				1.65.6			29 4			26.5							42.3
•			. 27.	30)- I		20.9	23.0	27.1	25.0		39.0	22.3	23.9	20.3		43.3	20.4	29.1		20.5	29.5	23.0	25.4	33.7	32.2	33. 2	. 29.0
•	42.8	51.	48-1	45	5-4	40.0	40.8	45.0 23.8	44.0		41.0 21.3		36.0 26.3		41.7	40·5 24·2	46.7 24. I	38.8 29.2	55·5 16·8	42-0 27-1	44·7 24·3	46.7 20.1	46.8	52-9	58.6 28.6	52·4 34·7	51.5	41·5 25·3
•	31.8	43-0	33.	33	3.8	44.5	27.0		34.0	·					•••••										35-6			36.6
•	34.2	40.			••••	33-4	34.9	31.3	31.2	,	32. I	55-9		43· I		39.3	•••••	34.5		33.2		35-4		32.8	40.0	40·7 60·5	34.5	31.6 46.4
	30.6	37 - 3				39.5		26.8	34-4		30.9	45.0 41.5	23.5		35.9		26.9	32.9 33.8	24.2 26.7		29.4 28.9	31.5 31.8	26.5	31.7	36.4	42-6	34.1	31.6
_	30.5	40-			1.3	32 .6	36. 6	28.7	31.3	21.9	27. I	32.6	20.8	24.7	25.4	22.6	25-3	25.7	23.8	29. I	25.3	25.6	19.0	28.6	30.0	38.2	28.3	26.2
	40-4	37.0	36.	36	5-4	49.8	35.8	20.0	37.6	36.0	34 · 4	48.7	35.3	41.7	39.2	38.3	24.6	31.3	31.0	28-3	30.7	36.8	20.3	27.7	47·8 35·7	45. I 43. I	32-7	33.7
	42.0 46.3		41-			39.5			39-2			49-1			38.0	39·5			40.2			43.6	41.6		48.0	66∙0	48.9	41.3
•	42-4	• • • • • •	53.	30	0.7	45· o		41.3		41.7	44.6	44.9				;		· · · · · · · ·		47-2	ļ	46.6	47.3	51.8	49·8 56·8	44.8 50.8	50.7	36·4 42·8
	45-4		. 38-	34	. I	45.2	46.4	52.8		46.6	47.6		ļ. 		ļ	ļ	•••••				ļ			,	38. 1	41.6		53-2
				'									44.3	40.6	1	40.7		49.6										: 58. 3
	58.6					•••••		64-2		45.6 62.6	65. I 71. I	50.8	35.1	61.2	51.6	37 - 2			68-4					1				
•	•••••			. 22	2.4	• • • • • •	12.0	20.1	`	58.3	63.0	20.3 51.5	20.0 39.8	23.3 40.7	50.7	16.2 38.9	•••••		66.3 62.7 45.5 45.3							:::::		`•••• ••••
• ;	•••••					6		08.4	ļ	57.1	80.7	77·3	70.7 51.3	68.7	64.2	58.9	73.8	77.0	62.7	54.8	63.2	54·9 54·0	55.2	50·7 59·7	07.2	55.5	57.9	59·3
						••••	76. 3	70.8		41.5	52.2		57.2	67.8	40.7	62.5	61.7	67.4	45.3	62.3	59.8	47.5	50.0	22.2	54.2	67.4	54.3	67.6
						• • • • • •	40.7	48-4		35.5	71.7	65.2	40.7	54.6		56.3	58.5	92.8	35.9			40-8	59.2	57.0	55.3	43.6	51.2	63.3
•	55-2					•••••				56·3 35·9	65. I	56.9	49· I	50.1	55.5	50-4	48-2	46.7	35.9 46.6 42.0	48.0 47.1	45.8	39· I 50· 4	59-5	60.7 68.1	44.9	41.1	49. I	49.6
•	••••		51.	5 59). 2	54·2 58·4	52.4	45·4 49·6	54-2	40.8 66.6	50.0 83.7	46.8 54.7	30.0 51.3	42.3 51.8	61.6	31.0	47·3 52·4	50.4 63.9	62.6	42.4 60.3	42.6 58.1	46.7 56.5	57.8	53. I	58·2 59·3	41.4	52.8	59.6 48.2
							 5·4			74.0	26.7				16.0		22.7	TO. 8	25.4	18.2	20.2	12.0	76.0	1 75.8	10.1			
	0.7		8.	16	. B	20. I	7.5	27.4	13.4	31.0	17.7	20.4	22.9	19.8	22.4	15.9	21.3	15.7	25.4 23.3 7.3 28.5	13.0	17.8	13.0	16.4	16.5	11-2	16.8	14.7	20.4
- 1	10.5		. 9.7	13	. 9	13.0	11.9	14.9	12.0	11.0	20.9	30-9																
•	37·7 15·1		. 17.2 . 17.0	1 15)- 2)- I	9.9	7·7 16·6	15.0 22.1	13.0 18.4	21.9 14.3	13.3 18.9	15.6	21 · 2 19 · 1	12.4 22.3	16.9	18-1	25.5 18.6	17.8	17.3	18.7	18. 1	14.3	19.5	16.1	10.5	19-5	•••••	
•	•••••	• • • • • •		• • • •	••••	•••••	•••••		•••••			•••••	,	•••••	'	•••••	12.0	14.2	15.9	10.7	!	23.9	14.4	17.1	13.9	15.7	17.0	19.0
•	36.8	39-1	36.0	33 40	. 2	46.7	39.2												·									
		• • • • • •	. 42.7	28	. 5	64.8	42.2	63.4	50.7	56. 0	•••••						•••••	42.9	38.3	39.2		32.2	34· I	36.7	40.0	54- I	39.4	40.4
	31-2	39-1	30-1	34	6	41.5	37 · 5	42.5	37.2	52.8	34.7	41.4	51.4	54-8	47.0	47.3	52.2	52.3	39-3	34.0	45.0	31.3	35. I 36. 3	34·9 46·4	30.9	47.7	36.0	38.4 42.6
	48.0	40-4	30-1	34	• 3	41.2	33.5	37.0	35.2	41.2	33· I	53.6	41.5	37.5	41.4	35· I	40. I	41.3	33.4	39.9	38.0	27.5 42.5	35.2	32.5	32.4	47.8	35· I	34.2

TABLE I.-Annual

State and station.	Lat. N.	Long. W.	Elevation.	1851	1852	1853	1854	1855	Pentad mean.	1856	1857	1858	1859	1860	Pentad mean.	1861	1862	1863	1864	1865	Pentad mean.	1866	1867	1868
Ohio-Cont'd. Elk Run	49 47 8	0 /	Feet.											ļ		35-4	30. 2	34.2	33.6	40.7	34.8	46.6		ļ
		1 05 3 47	1,020 940			 												:::::						
reenville	40 07 8	4 50	976		• • • • • •	· • • • • •								•••••	•••••	• • • • • •		•••••					• • • • • •	
	39 10 8	3 27 I 20	7 750	1					1	23 R	41.1	47.2	ET R	20. 2	38 R	1	1		25 2	48.2	i	46.6	24.6	1 40.6
acksonboro	39 30 8	4 30	I, 137 I, 152					•••••												ļ	ļ			
	40 40 8	3 33 4 05	881														1							
		1 16	730												l		l					. ;		· · · · · · ·
Inrgaretta	41 32 8	2 42 1 26	850 580	34.0	46.6	37.0	38.7	45·Q	40.6	32.5	40.7	61.0	33·7 48·8	30.9	44.8	29.2 46.3	39·7 42·7	26.4	34·4 40·9	40.0	33.9	42.8	28.9 46.7	47-1
Marion McConnelsville	40 37 8	3 07	1,077			•••••																	35.6	
Milnersville Napoleon	40 10 8	I 29	[;]	'	'															31.5	····	37.9		
New Lisbon	40 47 8	0 50	o6r	!			[!			42.4	40.2			25.2	28.0	31.2	20.0	41.4	1 22. 2	47. I	77.I	32.6
North Fairfield North Lewisburg	40 12 8	2 36 3 32	1,030					•••••		• • • • • • •	• • • • • •										 	•;••••• •;••••	32.2	20.1
Oberlin Pomeroy	30 18 8	2 12 1 50	800				28. I	47.0		24.8														
Portsmouth Quaker City	38 42 8 39 38 8	2 53	537	29. I	41.2	28.8	31.4	48.9	35.9				46.3	33.8		42.0	40. I	37.0	35.7	54·I	42.0	44.8	45.3	45.0
Ruggles	41 04 8	2 25	1, 100	'																				
Bidney	40 18 8	4 09	960																	40.0			-	
riffin	41 08 8	0 41 3 08			49-3					32.3	55. 1	50.4	49.6		46.8		42.4	38.7	49.2	48.0		49.1	• • • • • • •	
Foledo Jpper Sandusky	40 44 8	3 34 3 16	880								•••••					41.0	45.0	33.9	37 · 1	39.8	اسموا			
Urbana	41 36 8	3 43	767								39.6	41.2	36.6		• • • • • •		37.5	36.5	31.8	46.1		. 49.6	31.9	
Welchfield Waynesville	41 23 8	1 12	1, 205		'						•••••	49· I	56.2	56.8		46.7	45.5	44.6	53.5					
Westerville Oregon,	40 04 8	2 46	850			•••••	•••••		•••••		•••••	45-4	45. I	37 • 4		31.0	43-4				····		•	
Albany	44 35 12	3 02	600	!	• • • • • • • • • • • • • • • • • • • •																9. 0		91.3	· <u>· · · · · · · · · · · · · · · · · · </u>
Sandon	42 05 12	4 20	40							59.0	79.8	63.4	82.1	70.6	71.0	92.9	61.4	94.2	75.6					
Camp Harney Camp Warner	A2 28 ITT	0 42	5, 730							• • • • • •			· • • • • •									.'		
Cascade Locks Calles, Tho	45 33 112	I 12	150 106		· · · · · · · · · · · · · · · ·																			
Dalles, Fort	45 33 120	0 50	350			14.5	12.4	11.9			29.2	43.7	36.0	21.4		29.0	16.3	14.0	13.9	23.2	19.3			
East Portland Empire City	45 31 12	2 27	30																					
doskins, Fort	45 06 112	3 26									65.0	68∙0	71.1	56.6		77 · I	46.0	72.7						
Klamath, Fort	45 32 12	2 43	8o		!										ive	4								
Roseburg Stevens, Fort	46 12 12	3 57	523	•••••		• • • • • •		•••••		• • • • • •			•••••										. 86.0	1
Imatilla Impqua, Fort	45 65 III	9 20 4 IO	'' 8	!		 		• • • • • • • • • • • • • • • • • • •			63.0	73· I	69. I	55.7		89.5								
Yamhill, Fort	45 21 12	3 15	•••••			• • • • • •	• • • • • •	•••••	•••••	•••••	57.9	62.1	55.8		• • • • • •	61.3	57.0	53-8	42.9	54-9	54.0		•	• • • • • •
Allegheny Arsenal.	40 40 8	0 00 8 24	1, 208		41.4			43.5	34-9	26.5	38.9	36.3	37-2	35.8	34.9	33.5	29.3	31.6	46.7	50.7	38.4	20.8		
	40 36 7	5 23 9 08	250															1.1						
Blooming Grove	41 23 7	5 09																						47 -
Canonsburg	40 02 7 40 17 8	0 II								24.6	40.8	34.9												
Carlisle	40 58 7	7 14 6 30	500 478		39-3					26.0	43.2			42.7									52.3	
Chambersburg	41 14 7	7 40	618																			.¦		• • • • • •
Confluence Chromedale	39 48 7	9 21 5 25	1,346 196		47.3				44-1							l								• • • • • •
Drifton Dyberry	41 05 7	5 55 5	1,633																			<i></i> .		
EastonEgypt	40 53 7	5 16 5 28	320								43.3	37.4	51.8		١			1	1					
Erie	42 07 8	0 05	714										 .	1		l					J \$.			
Fallsington	40 55 7	7 53	78o										39-7	46. I		41.9	42.8	42.4	44.6	43.5	42-16	42.0	51.5	51.0
Franklin Freeport	40 40 7	9 50	980 770							•••••				•••••							fe.		• • • • • •	• • • • • •
Gettysburg Grampian Hills	40 54 7	7 15	624 1,400	31.1	43.3	32.9	32.9	47.6	37.6	28.8	38.1	45.7	42.5	38. 1	38.6	37· I	31.9	• • • • • •		47.0	į	. 48.4	43.0	46.8
Harrisburg Honesdale		6 53											46-4	38.5		36. I	37 · 1	59.8	51.8	45.8	46. 1	39.2	49-1	40-4
Lewisburg	40 58 7	6 55	450								38.0	39.8	41.4							46.0		40.4	47.3	36.8
Moreland Morrisville	40 00 7	5 11	250						· · · · · ·											49-5		44.5	3543	. 54.8
New Castle	41 02 8	5 00 0 21				• •• • • •	45.0	43.1		30.3	4/.0	40.1	51.6		ļ									V
North Abington	41 27 7	5 47 9 44	I, 183 I, 007			• • • • • •																		
Philadelphia Pittsburg	39 57 7 40 32 8	5 09	117 847	35.5	45.8				42.8		53-1	39-2					44.6		42.2	49-2			61.2	
Pocopson Pottstown	39 54 7		218			• • • • • •	46.0					44-4	50.5	52.8		41.9	42.7	52.0	45.2			40.3	51.3	50.
Shamokin Fioga	40 48 7	6 35	750								57.0	38.6	41.9	48. I		46.2	29.4							• • • • • •
Warren	41 51 7	7 11				• • • • • •																		
Walluber *	47 46 1 8	7 20	1,250		• • • • • •	• • • • • •				• • • • • •									• • • • • • • • • • • • • • • • • • • •					
Wellsborough * West Chester West Marlborough	39 58 7	5 35	460			•••			41. I					33.0		30.9	42.0	53.0	45-4	59.9	48.0	45-9	55.0	55.4

*Evidences of overmeasurement in earlier years.

1869	1870	Pentad mean.	1871	1872	1873	1874	1875	Pentad mean.	1876	1877	1878	1879	1880	Pentad mean.	1881	1882	1883	1884	1885	Pentad mean.	r886	1887	1888	1889	1890	Pentad mean.	189
••••		!		· · · · · · · · · · · · · · · · · · ·		 												35-4	43.0	· •••••	30.6	38.9	36.6	36.4		39.1	
••••	 										1			•••••							42.1 49.3	34·4 40·6	48·2 39·6 43·7	39·3 32·9 38·3		46.0 38.1 46.4	38.
7·9	34-4	1	36.3			37·3 36·8	41.4 34·3		41.0 36.5	32.9	45.0	32.5	33.2	36·0 46·6	39.6	46.7	45.6		38.0		30.9	35.1	38.0	35· I	49.5	37.7	37
4.0 ••••	52-4		47.6		42.5 59.5			40.9		39.7	42.7	40.7	54.4	40.0	54.7	41.8	54.6	36·8 37·0	37.0	43·3 44·8	46,2	33.6 40.7		25·4 35·2	50.4		39
 	· · · · · · ·				59.5	46.3	49-7	49· I	51.1	34-4	41.4	31.1	45.7	40.7	39.8				40.9		38-6	40.5	45·3	39.2	58-5	44-4	41
	·	41.5			39.8 41.6		41.3	39.4		33·7 34·9	40.7 37·5		33·5 46·5	35·4 38·1		34·9 59·9	33.1 45.8	17.8	38.2	39-7	42· I	35-5	55-4	41.0	61.1	47.0	40
• • • •		įi	• • • • • •							¦											41.5	35.3	44·6 26·8	34-1	61.9	43.5	
• • • • • • • •	31.0		29.7	34.9	· · · · · · · · · · · · · · · · · · ·																29.5	27.8		30.5	45.5	32.0	33
:	, ,		24.6	23.3	38.5	32.2	38.8		43.6		41-1	48.4	45.9	42.9		45-9	48.8 41.5	34·3 29·8	39·0 34·0	42.3	30.3	34·9 25·5	47·0 29·0	31.2 28.7	45·1 45·9	40.4 31.9	* 35
1.9	41-0	43.6	30.8	31.1	46.3	38.2	45-8	38.4	41.1	35· I	30. I	35-4	48.7	38- 1	40.8	56.2	48.6 53.0	42.2 43.4	37 · I 43 · 2	45.0	39.6 45.3 50.0	36.0 39.3 38.5		39-4	49·0 57·5	37·9 46·0	
••••			• • • • • •		37.2	32.4	34.0		38.7	29.9				34.0		31.1 42.6	36.8 40.0	24·3 33·7	36.6 34.4	32.3 39.4	32.2 31.1	31.6		24.7	40-9	30.6	30
9· 3	38-3					19.8	39.5			,				•••••			i	41.3	33· I 38· 5		41·2 28·2	35.6	43·7 30·1	47·4 27·4	45.5	32.2	45
				'		25.8	28.0			35-2	32.6	30-2	35.6	33-7	45.8	1	34·4 43·8	1	33.1	34.9	32.8 31.6	32.0 34.3	26·0 37·6	21.8 33.9	33.6 48.1	29.2	27 31
2·5		40-4			37 · 1	33.1	42·5 38·3	34.3	41.7 49.5		37 - 2	36.8	40.9	40.6	48.0	33.6	41.6	32.9	35-9	38-4	30.5	34.3	28.8	35-4	39.3	33.7	37
 9.4	31.3		26. I	28.7	39.9	39-4	40.4	34.9	40.7	34.9	37.6	33-1	37.7	36.8	37.6	40-8	40.6	31-1	42·7 39·6	37.9	41.1 30.8	37·3 28·0	42.6 39.1	30·7 29·4	46.7 49.7	39·7 35·4	45 40
	! 	·											41.7		58.9		39-1	50.2	37 · 1	46.7	40.0	57.1	36.2	34.0	40.0 58.4	41.5	53
		78.0		73.7	74.6	80.0	95·9 	85. 1	7.8	13.9	67.0 13.6	81.8 18.2	66.0		73.8	60.3	49-5	49·4 51·9	55.9 60.8	59-3	71.5 54.0	91.9 65.0	68·4 47·7	65.0 59.0	58.6	71.0 56.9	• • •
		'		17.8											98.7		76.9	71.2	66. I	79· I	68.4	100.6	59.8	56.2		71.2	87
••••	36.7		40.0	38.0	36.5	30.6	25.6 41.6	37.5	15.4	17·7 50·0	13.5	50.3		16.3 44.5	22.0 44.2	15.5	36.0	37 · 4	37 · 4	39.7	37.0	44-2	24.8	28.5	31.9	35.3	49
• • • • • • • • •			40.9		30.3	30.0		37.3				30.3	3/-9	44.3	44.7	45.3	32.3	32.7	25. I 45. I				33.9		20.8	32.1	
• • • • •	22.5		45.6			; !-::::::	30.6			22.8	19.2	26.4	12.9	20-2	23.6	22.7	9.6	24.5 38.1	24· I		15.4	23.4				40.7	
 	33.3	I	45.6	١	50.7 79.3	46·3 85·4	60.0 87.3	49.9	55. I 89. I	58·2 83·6	47.6 37.1 56.8	62.4 45.2 108.4	51.6 31.6 92.8	55.0 86.1	58.0 43.8 88.5	67.2 34.6 53.8	51.5 22.4	29.4	39.6 31.0		38.8 35.0	54·1 37·3	38.8	31.8 28.1	40. I 34. 6		46
••••			· · · · · · ·								7.8	9.6			11.5	8.8			 								
••••				38. 7																			· · · · · · ·	41.7	53.0		30
••••			· · · · · · ·						`		43.7	39-2	34· I		35. I	41.3	45.0	46.2	26.5 38.2		30.8	25.4 43.2	33.6 54.5 31.1	36.9 57.7	42.0 47.3	39.0 49.4	37
0.4	36.7		45-3	39.0	46.2	32.6	36.0	39-8	24· I	35·6 32·0	37·3 37·8	33.0	29.8 36.7	32.0	35·4 30·0	42·4 32·2	32.7	47-4	55·4 39·7	39.5	26.2 52.8	32·2 56·5	60.2	47·1 72·4	44·4 64·1	36.2 61.2	51
7·5 0·8	34·2 55·6		29.6 43.3	26.8 37.8	40·5 46·2	40.9 41.8	34·2 39·3	34·4 41·7	33.6 49.4	30· I	40.2	' '					 			l					50. I		43
••••									31.2	40· I	30.9	33.2	42.0	30.0	30.5		30.0	40.2	25.2								• • •
• • • • • • • • • • • • • • • • • • •					.' 		39.2		46.3	45. I	41.1	39.0	49-2	44· I	41.3	55.2	49.8	42.2	39.3	45-6	44-1	38.5	48.6	40.0	60.3	46.3	57
					. '									· • • • • •				49.3	41.2 37.9	37.2	37.6	38.6 45.7	54.8 48.4	45.6	53.3	46. I	41
••••		46· I		'	39-4	36.8 37.7	33.8	· · · · · · · · · · · · · · · · · · ·	33.0	44·5 30·1	44-7	39-2 36-2	34-7	39·2 43·2	37.8	46.2	41.5	45.4	52.0	45.2	47·5 37·4	45.2	32.2	37.6	47.0	30.0	30
3. o	59.0		34.0	41.5	54.9	47-4	44.0	44.7	47.0	43-7	36.5	39.3	44.8	40.5	42.6	45· I	12.7	43.7	43.9	43.6	46.1	34.4	45.8	44.2	58.1	45.6	42
9-5	45-5	46.6	36·5	36.9	50. 1	42.7	41.3	41.5	,				· · · · · · · ·				47.8						• • • • • •		• • • • • •	• • • • • •	
8.6	39.5	40.5	34.0			ļ		·						١						·					44.9	47·1	
7-9	52.6	51.0	52.0	43-9	52. 1	1	'															-7.0			••••	•••••	
3-4	43.5	47.7	42.6	48.4 31.2	55.2 41.5	46.4 39.5	40- I 34- 2	46.5 34.8	47·4 37·0	37·I 34·8	34.6	36.7 37.0	33·4 31·9	37·8 35·9	30.2	45.7 38.6	39.0 43.1	39·3 34·8	33·4 34·1	37·5 37·6	37·3 39·2	30.4 42.1 42.0	44.2	50.8 41.4	45·3 34·0 50·6	41.7 42.6	38 38
μ.δ ····	45.2	47.0	44.8	44-3					47.3	47 · I	45-4	40-4	37.9	43.6	39. I	42.3	40.8	49· I						*****			
3. I	46.2	40-4	33-3			40.3			·	'	'				. 	·			50-2		24.0	12.5	 25. 2	10-0	 ς8. 2	40-0	· · · ·
9· 4	53-5	51.8	47.8	45-8	54·9	45-5	51.8	49-2	53.0	53.0	48.3	38.3	84.9 41.0	46.7	66.7 41.6	74·9 45·8	72. I 48. I	77·3 56·5	57·9 46·9	69.8 47.8	59·3 53·4	40.5 59.0	48.8 53. I	61.2 73.3	50.7 54.5	52. I 58. 7	39
•••	, · · · · · ·			•••••		•••••	•••••	•••••	•••••	•••••	•••••	•••••	•••••					! !	•••••		•••••	•••••	•••••	•••••		•••••	••••
••	34-1		39.9	34-1	40.4	41.8	40.8	39.4	35.0	37.3	30.8	30. 1	31 · 3 43 · 4	34.2	31.3	57.8	39.7	63. 1	39.4	51.9	54.6	44.6	27· I	47·0 32·9	30.2 31.7	38.2	30 38

TABLE I.-Annual

Number	State and station.	Lat. N.	Long. W.	Elevation	1851	1852	1853	1854	1855	Pentad mean.	1856	1857	1858	1859	1860	Pentad mean.	1861	1862	1863	1864	1865	Pentad mean.	1866	1867	1868
	Vermont-Cont'd.	0 /	0 /	Feet.																					
997	Jacksonville		72 48 71 41	850	33-5	39-1	41.9	36.6	38.2	37.9	39.9	37.3	38.4	35.2	39.0	38.0	47· I	46.0	45.8	38.9	39-9	43.5	38 1	39.7	43.3
999	Middlebury	44 02	73 10	398						•••••						•••••				35.6	35-3		37.0	36.3	
1000	Newport Randolph		72 18 72 36	750																			33.2	34.7	28.0
1002	Strafford	43 52	72 25	50		•••••	•••••			• • • • • •			•••••												30.9
1003	West Charlotte	42 48	72 30	90		*****							•••••	į	i										•••••
1005	Woodstock Virginia.	43 36	72 31	650								45-4	35.7												
1006	Alto Vista Cape Henry		78 26 76 00	500	::::::	*****	•••••	• • • • • •	• • • • • • • • • • • • • • • • • • • •	• • • • • •		• • • • • • •	•••••			· · · · · ·			•••••		;		•••••	•••••	
1007	Chincoteague	37 55	75 23	8					· • • • • • •																·
	Christiansburg Crichtons Store	37 05	80 23	2, 160			•••••	• • • • • • •		•••••			• • • • • • •						• • • • • • •	•••••	•••••		•••••		j
1010			77 46 78 50	850				44.3	41.0		30.5	34.2	32.2	30.7	35.0	33.0									
1012	Fort Monroe	37 00	76 19	8	26.7	27.2	26.7	19.3	!		40-4	42.8	37 · I		40. I		47. I		29.8						44.0
1013	Lynchburg		76 20	658	:::::		•••••						• • • • •		•••••	•••••	•••••	•••••	•••••	•••••		•••••	• • • • • •		
1015	Marion Mount Solon	37 25 36 48	St 25	2, 135												ا ا				' • • • • • •					
	Mount Solon	38 17	79 02	1,560	::::::		•••••	• • • • • •	•••••	• • • • • •	•••••		• • • • • •		•••••	•••••		• • • • • •			•••••		••••		••••
1017	Norfolk Prospect Hill Farm	37 25	76 17 75 52	40													l		·						
1019	Powhatan Hill	38 13	77 12	200	26.8	37.6	28.9	30.0	30.3	30.7	29.3	32.2	31.3	34 · 4	33-7	32.2	44.9						36.5	43· I	30.3
1020	Smithfield	37 32	77 26	172	40.5	47.5			41.7		48.6	47.1	44.8	52.5	50. 5	40.7	•••••						• • • • • •		
1022	Snowville	37 00	80 31	1,800			!															!	'		102.0
1023	Wytheville		77 10 81 02	2, 235			• • • • • •	• • • • • •	,	•••••			•••••				• • • • • • •	• • • • • • •					• • • • • •	ļ	
1024	Washington.	30 33	01 02	2,235																					38.1
1025	Canby, Fort			30	:::::			• • • • • •									•••••	••••	ļ			· · · · · ·		<u>.</u>	· · · · · ·
1026	Dayton			1.683																	' - -		·		
1028	Neah Bay	48 23	124 36	5												·			132.2	105.7	121.3				
1029	Olympia Port Blakely	47 03	122 53	76			• • • • • •	•••••		•••••			• • • • •		••••	•••••	*****	• • • • • •	• • • • • • • • • • • • • • • • • • • •			• • • • • • •	•••••	· · · · · ·	· · · · · ·
1030	Port Angeles	48 07	123 06	14													i .		7						
1032	San Juan Island	48 23	123 01	150			• • • • • •	• • • • • •	¦•••••	•••••				• • • • • •	13.4	!	18.4	17.1	19-3	• • • • • •			34.6	30.9	17.5
1033	Spokane Steilacoom, Fort	47 40	122 34	I, 909 300	39-5						:	39-5	50, I	38.8	33.4		35.9	25.0	45.2	32.8	33.9	34.7		· · · · · · ·	
1035	Tatoosh Island	48 23	122 44	90							·					·					·				
1036	Townsend, Fort Vancouver, Fort	48 07	122 45	50															42.6						
1038	Walla Walla West Virginia.	46 02	118 20	1,018			•••••		·····	• • • • • •	•••••	17.9	19.2	18.0	20.4	•••••	40.6	39- 1		8.9	5.8	· • • • • • • • • • • • • • • • • • • •		•••••	····
1039	Ashland		82 10 81 40	598				• • • • • •	25.5	• • • • •	• • • • • •						· • • • • • • • • • • • • • • • • • • •	••••			• • • • • •		•••••		·
1040	Helvetia	38 30	80 10							·	1			1						1	1	1			
1042	Morgantown	39 39	80 10	894	::::::										• • • • • •			• • • • • •		• • • • • •	!		••••	••••	
1043	Parkersburg Rowlesburg	39 16	81 34 79 42	1.402								1					1		1			·			
1045	Sheetz Mills	30 10	80 30								20.5	32.2	25.6	34.8	41.0	30.8	38. I	32.7	41.4	25.2	35.6	34.6	•••••		
1045	Wellsburg Weston		80 42 80 22	I. 500	::::::		• • • • • •	• • • • • •	•••••		•••••		• • • • • •		• • • • •	· • • • • • •		,			• • • • • •		•••••		•••••
1048	Wheeling	40 03	80 43	637																					
1049	White Sul. Springs Wisconsin.	37 50	80 25	2,000	34.2	34-2	•••••	•••••		•••••			•••••							¦	¦		•••••		
1050	Beloit	42 30	89 11	750										!		ļ	37.5	39.7	29.8	30.9	24.5	32.5	30.2		35-3
1051	Bloomfield Crawford, Fort	42 35	88 32 91 14	600 695			•••••			• • • • • •	• • • • • •		•••••					•••••		•••••		• • • • • • •		1	
1052	Embarrass		89 00	796																28.9	36. 3		35.4	20.0	38-8
1054	Green Bay	44 31	88 00	616	31.5					•••••		 -	• • • • • •	ļ											ļ.
1055	Howard, Fort	44 33	88 og 89 og	620 780				36.4	31.1		22. I	27.4	42.6												
1057	LaCrosse	43 49	91 15	744																					
1058	Manitowoc		89 24 87 46	658	::::::	16.60	1		1		1		1		i		į.		i	26 7	21.5		27.2	24.2	20.4
1000	Milwaukee	43 02	87 54	697	30-4	29.4		31.7	36.0		29.0	30.8	45. I	28.9	22.0	31.2	31.9	38.8	31.7	27.8	30. 1	32. 1	34.0	24.5	29.2
1061	Rocky Run	44 58	89 43	680				•••••		•••••		• • • • • •		,	27.5		36.5	38.8	31.3	20.5	31.6	31.7	37.7	29.9	27.5
1062	Superior City Winnebago, Fort Wyoming.	43 33	92 13 89 35	697 680 870				•••••		· · · · · · · ·							33.4					-3.4	-3·/ ,		
1064	Bridger, Fort	41 28	110 30	6,643			••••			· • • • • • •											· • • • • • •	;·····	· • • • • • •		
1065	Browne, Camp	42 58	108 55	6, 105																					• • • • • •
1067	D. A. Russell, Fort.	41 12	104 50	6, 105 6, 062																				;	
1068	Fetterman, Fort Fred Steele, Fort	42 50	105 20	5, 250	:::::				1										1						
1009	Laramie, Fort	42 12	104 31	4.472	9.6	31.4	31.0	22.4	18-8	22.6	15.1	6.0	7.7	6.2	3.4	7.7		13.0	3.4			•••••			·;••••
	McKinney, Fort Sanders, Fort	44 23	106 46	5,000									-						3.4						
1071	Condon Post			w . C -			1																		

^{*}The values for the first two years are evidently incorrect.

869	1870	Pentad mean.	1871	1872	1873	1874	1875	Pentad mean.	1876	1877	1878	1879	1880	Pentad mean.	1881	1882	1883	1884	1885	Pentad mean.	1886	1887	τ888	1889	1890	Pentad mean.	1891
3-8	45-2	42.0	43.0	60.8	40-4	39,6	42.8	45·3	43.2		34-4	43.5	31.1	38.0	38-2	32.3	36.5	35-9	37.6	36. 1	53.8 29.8		67.8 43.5	57·5 40·0	59·1 45·2	58·8 38·3	53·5 30·1
5· 4 • • •	• • • • • • •			,			41.6	; .	39-4	39-5	36.9	43-4	38. 1	39 5	39.0	42.6	43.6	48-6	49-4	44.6	47.9	42.2	43. I				
	35.3	37.6	36.1	45.2	46-4	40-7	38-4		48.5	40. I	42.0	41.1	35∙5	41.4	37 - 1	28.9	35.1	38.4	42.9	36.5	38·4 40·8	47·3 51·3	47.8 60.6	47·4 52·6	51.3	46.4 51.0	38. 1 39. 2
	43·2 41·6			41.3 42.5	36.2 44.1	30.8 34.0	38.0	38.5	38.3	40.5	39.5	37.4	29.7	37 · 1	33.7	32.0	32.7	34-2	41.3	34.8		33	'				39.5
	 		ļ			34.8 51.0	37·8 59·7		34·5 64·I	36.2 64.7	43·7 60·9	49.8	63.1	60.5	50.2	57.4	57-1	40.9	36.5	48-4	44.9	56.3	44.0	62.6	45.2	50.6	48.9
				' 							¦				35.1	35.0	42.2	41.0	41.8	39.0	1 45-1		37.2	37.4	33.6		50.6
	• • • • • •	;	'	• • • • • • • • • • • • • • • • • • • •	· · · · · · ·	¦							37.2	! ! • • • • • • !	37.5	55.8	37.2	52. I	48. I	46-1	68.4	46·0	42.7	52.5	35.4	49.0	40.5
.8	37·9 41·6		46.4 50.2	47.8	41.4	35·2 32·5	45·2 47·6	43·2 43·8	31.8	43·4 42·5	38.9	39-4	43-3	39-3	33.1	41.1	35.8	34.6	29.1	34.7	41.7	47.5	45.0	68.4	47.1	49.9	48.4
•••	• • • • • • • • • • • • • • • • • • •	·	41.2	30-6	52.5	44·4 46·6	42.0	42.1	40.0	43.6	45.3	36.8	38-9	40.9	35.7	47-0	35.8 43.8	47·1 36·9	46.6 38.8	45-2	51.8 47.3	40.5 33.7	48.5	49.0	38. I 45. 5	47.9	50· I 40· 3
•••;	63.2	`	26.7 56.8	30.9 56.9	36. I 55. 3	28·2 50·5	34·9 50·9	31.4 54.1	35·5 46·5	34·2 69·0	38.9 51.8	26. I 36. 0	35. I 51. 7	34.0 51.0	40. I		54.3	45.1	43. I	48. I		47.8	56.7	70.9	50-2		50.8
	33·4 27·1		49.3	46.7 24.3	31.9	40-5	56. I	46-9	41.4	46.4	44.8	38.4	49.5	44· I		• • • • • •	47.5	37.0	48.7	44.6	50.1	48.2	48-3	71.2		53.4	02.6
	. 												39-2		33.2	39.7	40.0	30.6	37.9	36.3	54.3		53-3	72. I 72.4	43.5	54.0	52.8
• 3	•••••		36.0		37.6 48.6	32.9 41.7	43·4 33·1	39.3	42.8 36.8	36.6 44.7 46.8	56. 1	33.2	27·4 33·3	40.8	36.5	35.2 38.6	31.7 35.7	38.8 43.6	34.0	32·5 37·7	36.3 51.6						
• 5	37.0	•••••	, 30.1	34.0	43.5	39.9	49.0	41.1	33·4 56·9	61.6	52.5	38·8 76·4	39-1	42. I 65. I	36·0 76·7	50·6 70·0	51.0	1 .	34.8	40.6	,	73.8	42. I	E2. E	54.0	61.4	72.2
2	20.2		24.6	15.9	8.4	12.0	32.7	18.7	23.6	25.3	56.4 16.6	20.2	29.8	03.1	27.5		21.4	45.6	58-4			/3.0	39.7	53.5	54.0		
•••		 		ļ	; 	93.9			¦	¦	62.2	136.0	97·4 62·8	¦		33·5 51·6	41.6	79.6	101.4	47.3		61.7		79.8 33.6	99.8 35.8	45-0	58-8
	• • • • • •	1		, - 							63.3	73·4 65·8				44· I	35.3		44·3 28·0	42.9	39.0 30.1	43·4 34·3	41.4 28.1	29.8	31.3 26.2	37.0	38.3
7	19-4	24.0	24.3	i												25.7	14.5	20.5	19.0		15.9	ļ	17.7	14.2	16.7	16.9	
• • • ;	• • • • • •	1																75· I	84.5			106.1	83.5	58.0	87.4		105.6
	• • • • • •	1					36.7		21.8	16.5	21.1	22.6	18.7	20. I	21.7	24.3	20.2	18.6	17.4	20.4	15.9	18.9	24.2	15.0 29.6	20.0 38.0	18.8	24.9 44.4
•••			• • • • • • • • • • • • • • • • • • • •		13.1	11.8	16.1		17.5	20.5	13.7	20-2	17.7	17.9	22.3	21.0				•••••	16.3	20.5	13.6	14.5	8.11	15.3	i6. i
.6	. 	!		1 1	¦			! 						ļ									43.6	48-3	60.2		50.7
•••	 					45· I	50.3		48-3	48.4 43.3	58·9 43·2	44·6 43·4	55.6	46.0	56.7 41.7	87·5 55·3	61.6	48-8	46.2	60.2	50· I	46.8 30.9		49.1	69.5	•••••	54.6
•••	 	 																	30.7 33.4		36.5 19.1		52.2	37·4 35·8	61.9 56.4	44·4 39·2	42.0
•••						 :							37.0		41.9	44.6	41.7	34.0	42.4	40.9							
	 		ļ						'					 				31.2	33-0		50·5 42·9	38.9	44·3 49·5	44·5 31·4	68-1 64-2	49.3	66.7 41.2
•••	• • • • •	,· ····				¦				• • • • • •				•										•••••	36.7	•••••	•••••
•4 •••¦				30.8		28·4 24·3	37·3 34·5	20.5 31.7	40.8	40.9 32.9	41.0 38.2	35·9 30·9	36.8 36.1	39. I 36. 4	46.4	38.0	35.0	33.8	37 · 2	38.1	30.8	31.7	33.0	• • • • • • • • • • • • • • • • • • • •	• • • • • •	•••••	
3	41.9	36.9	37.7	28.5	35.0	31.0	43.9	35.2	48.9	34-4	37.6	41.6	49.8	42.5	57-4	49.0	42.2	62. I	42.6	50-7		43.6		33.8	44.0		41.2
• • •				' 1	'							• • • • • •										32.6	35-4	32.8	38.6		25.9
_'	• • • • • • •				23.4	31.9	38.7		39-3	36.4	31.3	34.9	34.3	35.2	45.0	28. o	33.6	35· I	30-6	34-5	22.5	17-4	34.8	24.4	34.8	26.8	27.0
·7	28.2	29-8	27.8	23.8	27 0 34 I	29.0 28.2	30.2	26.2 28.8	34.5	33. I 28. 3	35-9 34-2	35. I 27. 3	32.3	30.8	53.0 37.4 39.2	42.7 40. I	38.2	49.1	38.7	45.0 37.6	33. I	39.0 26.5	30.7	20. I 28. 7	30.8 32.7	39·5 30·3	24.3 24.6
. O	20.5 34·3	34.9	40.0	21.5	30.7	30.9 28.3	35.5	31.1	50.4	40.2	36.2	25.0	29.8	37.9	39-2	28.3	29.5	30.0	32.5	32.0	31-4	30.3	23.5	31.8	30. 1	29-4	30.0
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.6	5-6		9.2	10-5	10.6	13.1	10.3	10.7	7.0				 	·····	7.6 11.9 30.7	7.6	9.5	7.2	8.9	8.2	8.3	8.9	9.6	11.7	6.7	9.0	
• • •	11.2	•••••	9.3	13.3	10.1	9.6	12.0	10.9	3·3 5·0	11.6	12.7	7.3	8.5	9.0	11.9	8.6	19-3	15.6	15.2	14-1	10.2	11.7	14.5	14.6	14.5	13.1	18.9
 · 5	10.5		17.9	14.3	16.1	15.8	8.3		9-4	14.2	17.5	11.3	10.1	12.5	30.7		•••••				•••••	·····					11.3
· 5	11.8		11.3		18.4	12.3	5.7	9.1			13.8	0.8					•••••		10.6		10.4		15.5	10.9			•••••
• • •			8.1	. 17.7	15.1	11.6	8.0	12.3	11.0				' '		,						9.5	ö. 2	15.2	0. I	5.3	10.1	14-2

Table II.—Annual and seasonal averages, seasonal variation, and cubic miles for each State.

State.	Area in square miles.	Spring.	Summer.	Autumn.	Winter.	Annual.	Seasonal variation.	Cubic miles.
		Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	
Alabama	52, 250	14. 9	18.8	10.0	14. 9	53, 6	1.5	44. 2
Arizona		1.8	4.8	2. 2	8. 1	10. 9	8.8	19. 4
Arkansas		14. 8	12.5	11.0	12. 8	50.6	3, 9	42. 5
California		6. 2	0.8	3.5	11.9	21. 9	40.0	54. 9
Colorado		4. 2	5. 5	2.8	2. 3	14. 8	2. 4	24. 2
Connecticut	4,990	11. 1	12. 5	11.7	11.5	46.8	1.1	8 . 6
Delaware	2,050	10. 2	11.0	10.0	9.6	40.8	1.1	1. 8
District of Columbia		11.0	12. 4	9.4	9.0	41.8	1.4	0. 04
Florida	58,680	10. 2	21.4	14. 2	9.1	54. 9	2.4	51.0
Georgia		12. 4	15. 6	10. 7	12. 7	51.4	1.5	48. 2
daho	84,800	4.4	2. 1	3. 6	7. 0	17. 1	3. 3	22. 7
Illinois	56,650	10. 2	11.2	9.0	7.7	38. 1	1.5	84. 0
Indiana	36, 350	11.0	11.7	9. 7	10. 3	42. 7	1.2	24. 2
Indian Territory	31,400	10. 6	11.0	8.9	5.7	86. 2	1.9	17. 7
owa		8.3	12. 4	8. 1	4. 1	32. 9	3.0	28. 8
Kansas	82,080	8.9	11.9	6. 7	3. 5	81.0	3.4	40. 0
Kentucky		12. 4	12. 5	9. 7	11.8	46. 4	1.8	29. 8
Louisiana		18. 7	15.0	10. 8	14. 4	58. 9	1.4	41.6
Maine	83,040	11. 1	10. 5	12. 3	11. 1	45. 0	1.2	23. 2
Maryland	1 1	11.4	12. 4	10. 7	9. 5	44. 0	1.8	8. 3
Massachusetts		11.6	11.4	11.9	11.7	46. 6	1.0	5. 9
Michigan		7. 9	9. 7	9. 2	7.0	33.8	1.4	31. 3
Minnesota		6. 5	10.8	5.8		26. 2	8.5	3 4. 4
Mississippi		14. 9	12.6	10. 1	15. 4	58.0	1.5	88. 8
Missouri	69,415	10.0	12.4	9. 1	6. 5	38. 0	1.9	41. 2
Montana		4.2	4.9	2.6	2. 3	14.0	2. 1	82. 1
Nebraska	1 /	8. 9	10. 9	4. 9	2. 2	26. 9	5.0	82. 9
Nevada		2. 3	0.8	1.8	3. 2	7.6	4.0	14. 4
New Hampshire	9,305	9.8	12. 2	11.4	10.7	44.1	1.2	6. 3
New Jersey	7,815	11.7	13. 3	11.2	11. 1	47.8	1.2	5. 6
New Mexico		1.4	5.8	3. 5	2.0	12. 7	4.1	24. 5
New York		8.5	10.4	9.7	7.9	36. 5	1.8	28. 3
North Carolina		12. 9	16.6	12.0	12.2		1.4	44. 2
North Dakota Ohio	1	4. 6 10. 0	8. 0 11. 9	2. 8 9. 0	1. 7 9. 1	17. 1 40. 0	4. 7 1. 8	19. 1 25. 7
•			l					
Oregon		9.8	2. 7	10.5	21.0	44.0	7.8	66. 7
Pennsylvania		10.3	12.7	10.0	9.5	42.5	1.3	30. 2
Rhode Island		11. 9	10.7	11. 7	12. 4	46. 7	1.2	0.8
South Carolina		9.8	16. 2	9. 7	9. 7	45. 4	1.7	21.6
South Dakota	. 77,650	7. 2	9. 7	8. 5	2. 5	22. 9	8.9	28. 1
rennessee	42,050	18. 5	12.5	10. 2	14.5	50. 7	1.4	88. 4
rexas		8. 1	8.6	7.6	6.0	30. 8	1.4	127. 0
Utah		3. 4	1.5	2. 2	3.5	10.6	2.8	14. 8
VermontVirginia		9. 2 10. 9	12. 2 12. 5	11. 4 9. 5	9. 3 9. 7	42. 1 42. 6	1. 3 1. 3	6. 1 28. 5
-			3. 9			89. 8		
Washington West Virginia		8. 6 10. 9	12. 9	10. 5	16. 8 10. 0	42.8	4.8 1.4	48. 4 16. 6
			11.6	7.8	5. 2			
Wisconsin		7.8 4.3	8.5	2.2	1.6	82. 5 11. 6	2. 2 2. 7	28. 7 17. 9
** ***********************************	. 51,050	4.0	0.0	44	1.0	11.0	4. (11.9
			1				1	
Total		9. 2	10. 3	8. 8	. 8.6	86. 3	8. 0	1407. 1 28. 7

TABLE III.—Mean daily rainfall for 18 to 28 years at 12 selected stations expressed as a percentage of days on which rain fell.

` .						. (twe				,			ea stations ex	.						y-two				•
	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.		Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov. Dec.
1	328 58 37 47 58 58 32 4 53 47 58 47 58 47 58 58 68 32 4 42 53 58 47 68 53 47 68 53 47 68 53 47 68 53 42 53	68 42 58 53 37 37 21 22 58 42 26 53 58 53 53 63 58 58 53 63 63 63 63 63 63 64 64 64 64 64 64 64 64 64 64 64 64 64	328 537 44 24 58 55 53 24 58 55 53 75 55 55 55 55 55 55 55 55 55 55 55 55	45 35 55 55 56 55 59 30 30 40 30 40 30 40 40 40 40 40 40 40 40 40 40 40 40 40	355 50 25 350 25 25 25 25 25 25 25 25 25 25 25 25 25	35 45 35 60 35 55 35 50 60 35 40 40 40 35 45 45 45 45 40 60 60 30 40 40 40 40 40 40 40 40 40 40 40 40 40	30 40 40 60 50 45 40 45 40 40 40 40 40 40 40 40 40 40 40 40 40	30 35 30 30 30 35 40 35 40 35 40 40 55 55 20 40 40 40 40 40 40 40 40 40 40 40 40 40	50 35 25 15 40 20 20 20 40 40 40 40 40 40 40 40 40 4	35 35 35 35 36 30 30 30 40 30 34 40 35 40 40 35 40 40 35 40 40 40 40 40 40 40 40 40 40 40 40 40	45 35 30 30 40 40 55 50 50 50 50 50 50 50 50 50 50 50 50	40 45 30 40 55 45 50 70 55 45 50 70 50 50 50 50 50 50 50 50 50 50 50 50 50	I	23 36	36 37 37 37 37 37 47 37 47 50 47 50 50 50 50 50 50 50 50 50 50	411 417 418 477 437 4418 277 4418 277 4418 277 451 451 477 451 477 477 477 477 477 477 477 47	36 36 37 18 57 55 14 18 31 27 27 27 27 27 27 27 27 27 27	23 23 24 23 24 11 24 11 45 27 9 14 14 14 27 9 14 14 13 23 32 34 13 32 34 14 14 14 14 15 16 16 16 16 16 16 16 16 16 16 16 16 16	36 23 41 59 36 41 36 45 55 55 55 41 23 45 45 45 45 45 45 45 55 55 55 45 45 45	50 59 41 45 41 43 44 43 44 44 45 41 45 46 47 47 48 49 49 49 49 49 49 49 49 49 49	45 59 45 45 45 45 45 45 45 45 45 45 45 45 45	59 45 23 41 55 36 45 41 50 36 41 45 47 27 45 36 41 45 36 41 45 36 45 47 27 27 45 36 45 45 45 45 45 45 45 45 45 45 45 45 45	36 18 14 14 18 32 23 18 18 27 23 23 23 23 23 23 23 23 23 23 23 23 23	9 14 18 23 14 36 27 27 32 32 27 18 23 18 32 32 23 18 32 32 45 32 45 32 27 36 36 27 36 36 37 32 27 36 36 32 27 36 36 32 27 36 36 32 27 36 37 36 38 32 39 32 39 32 39 32 30 32 31 32 32 32 33 32 34 11 36 32 37 36 38 32 39 32 30 32 31 32 32 32 33 32 34 11 36 32 37 36 38 32 39 32 30 32 31 32 32 32 33 32 34 11 36 32 37 32 38 32 39 32 30 32 31 32 32 32 33 32 34 11 36 32 37 32 38 32 39 32 30 30 32 30 30 32 30 30 32 30 30 32 30 30 32 30 32 30 32 30 32 30 32 30 32 30 32 30 32 30 32 30
		NEW	BRUN	SW1C	K, N.	J. (tw	enty-e	ight y	ears).						к	EY W	est,	FLA.	(twent	y-two	years).		_
1	43 43 43 43 43 43 43 43 44 43 44 43 44 43 44 44	25 7 3 3 6 3 2 8 1 8 4 3 5 2 9 3 6 4 3 3 2 5 1 8 3 2 2 5 1 8 3 2 2 9 1 1 1 3 2 9 4 3 3 9 1 8 2 5 7 7 1	36 255 36 32 32 32 32 32 32 32 32 32 32 32 32 32	29 43 25 32 33 36 31 36 34 35 31 36 36 31 36 31 36 31 31 32 31 31 31 31 31 31 31 31 31 31 31 31 31	15 26 15 33 33 37 41 32 22 44 33 33 37 48 22 2 37 26 33 41 41 41	30 26 33 34 44 33 37 33 30 44 41 .77 30 22 41 30 26 41 30 26 26 26 26 26 26 26 26 26 26 26 26 26	26 22 26 44 44 44 33 30 26 22 22 30 37 37 37 39 26 22 22 30 37 37 37 37 37 37 37 37 37 37 37 37 37	30 48 337 377 26 37 376 27 26 30 32 26 48 32 26 48 32 27 126 33 22 33 30 30 30 30 30 30 30 30 30 30 30 30	26 11 126 19 30 30 37 22 23 37 33 41 19 30 37 26 30 37 26 26 26 26 26 27 28 28 28 28 28 28 28 28 28 28 28 28 28	26 26 22 26 19 22 22 22 22 22 23 37 37 22 26 26 33 32 26 11 15 5 22 26 33 33 34 44	19 22 30 19 19 19 19 30 22 30 41 30 30 15 19 22 22 15 48 30 30 30 30 30 30 30 30 30 30 30 30 30	19 22 30 41 37 26 22 22 22 23 33 7 26 33 33 33 22 26 33 44 19 30 15 37 41 41 41 41 41 41 41 41 41 41 41 41 41	1	18 41 32 33 45 36 32 37 14 45 32 32 27 18 23	9 27 36 23 36 23 41 41 41 43 45 41 41 42 41 41 41 41 41 41 41 41 41 41 41 41 41	5 32 14 14 14 23 14 14 23 14 2	14 53 33 36 9 9 5 5 14 23 23 18 14 14 23 32 14 18 14 14 23 32 18 14 14 23 32 18 18 18 18 18 18 18 18 18 18 18 18 18	14 27 14 14 27 9 32 27 23 32 27 23 32 27 23 32 27 35 0 27 36 27 36 27 36 27 36 37 32 27 35 0 5 36	32 41 32 57 7 33 8 2 50 41 50 64 64 33 65 53 36 65 53 36 56 56 56 56 56 56 56 56 56 56 56 56 56	459 559 41 559 232 27 559 551 41 64 59 555 451 41	50 41 59 55 55 55 55 55 55 55 55 41 59 55 54 45 59 55 55 55 55 55 55 55 55 55 55 55 55	59 54 564 68 50 55 55 55 55 55 55 55 55 55 55 55 55	555 64 9 73 5 59 64 0 5 55 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	23 23 23 32 36 14 41 23 36 37 22 3 32 32 36 41 41 23 34 41 41 23 34 45 23 23 27 23 32 27 23 32 27 23 32 27 23 32 27 23 32 27 23 32 27 23 32 27 23 32 27 23 32 27 23 32 27 23 32 27 23 32 27 23 32 27 23 36 36 23 37 36 23 27 36
	~		ASH1N	GTON	, D. C.	(twen	ty-two	years).		,				C	HICA	GO, 11	LL. (t	wenty	two y	ears).			
1	31 32 37 46 46 46 46 37 46 46 37 46 46 32 23 41 32 31 46	37 32 441 37 41 37 45 41 37 46 41 41 37 37 46 41 41 41 37 37 46 64 51 51 46 67 67	37 46 51 37 46 32 46 41 37 37 37 37 37 37 37 37 37 37 37 37 37	37 46 37 37 37 37 32 41 28 46 55 56 66 46 1 51 9 28 41	28 32 37 41 55 55 57 46 46 51 46 46 46 46 46 46 46 46 46 46 46 46 46	37 37 31 37 37 37 37 37 37 37 37 37 37 37 23 41 46 37 28 46 46 46 46 46 46 46 47 48 48 48 48 48 48 48 48 48 48 48 48 48	41 46 32 59 14 28 32 46 37 46 28 19 46 28 32 32 46 37 37 46 28 37 37 46 28 37 37 46 46 28 37 37 46 46 46 46 46 46 46 46 46 46 46 46 46	55 641 418 3746 41 3723 28 32 32 41 32 32 33 41 32 32 33 41 37 41 32 32 33 41 37 41 37 41 37 41 37 41 37 41 37 41 41 37 41 41 41 41 41 41 41 41 41 41 41 41 41	9 9 28 41 41 37 55 55 541 46 2 37 23 23 23 23 23 23 23 23 23 23 23 23 23	28 19 28 14 32 13 23 37 19 19 19 19 19 23 24 41 41 41 41 41 41 41 41 41 4	23 37 32 19 28 19 35 141 446 447 447 448 449 449 449 449 449 449 449 449 449	32 19 19 55 37 37 37 37 37 37 41 41 51 41 51 41 51 41 51 41 51 41 51 41 51 41 51 51 51 51 51 51 51 51 51 51 51 51 51	1	50 50 32 32 33 35 36 35 36 36 36 36 36 36 36 36 36 36	41 32 45 41 45 45 45 45 45 45 45 45 45 45	59 45 41 41 44 45 50 45 45 45 45 45 45 45 45 45 45 45 45 45	41 36 45 41 41 41 41 50 50 41 45 64 45 64 45 64 32 32 32 55 64 32 33 34 35 36 36 36 36 37 38 38 38 38 38 38 38 38 38 38	45 55 50 41 7 32 45 55 45 55 45 55 45 55 45 55 45 55 45 55 45 55 45 55 45 55 45 55 45 55 45 55 22 27 32 41 32 41	555 5941 445 5041 505 5942 277 360 277 360 277 3641 3644 4164 3241 18	32 41 550 41 36 36 32 32 32 32 32 32 32 32 32 32 32 32 32	50 36 35 32 31 31 32 32 32 34 37 36 36 36 36 36 36 36 36 36 36 36 36 36	18 27 32 41 27 36 50 50 41 23 32 41 23 32 41 23 32 41 23 32 41 23 32 41 23 32 41 23 32 41 23 32 41 23 32 41 23 32 41 23 32 41 23 32 41 32 41 32 41 32 41 32 41 32 41 32 41 32 41 32 41 41 41 41 41 41 41 41 41 41	41 36 45 41 41 64 65 65 65 65 65 65 65 65 65 65 65 65 65	32 32 55 45 18 45 27 45 55 45 40 45 32 41 50 27 45 41 45 36 32 50 41 23 50 45 32 50 41 45 50 50 50

TABLE III. - Mean daily rainfall, etc. - Continued.

		5	ST. LO	ouis,	MO. (t	wenty	-two y		BLE I	II.—,	Mean	daily	rainfall, etc. SANTA FE				en yes	rs J a n	uary-B	lay, t	venty	years .	lune-l)ecem	, ber).
	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.		Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	De
I	45 23 45 32 33 45 33 23 33 36 45 36 45 45 45 45 45 45 45 45 45 45 45 45 45	36 41 7 36 41 32 36 41 32 36 32 6 33 6 41 32 27 32 36 55 55 52 27 7 20		18 41 42 27 18 41 41 45 59 36 50 45 45 45 32 27 32 45 50 50 50 50 50 50 50 50 50 50 50 50 50	45 59 55 41 36 32 41 36 55 55 55 45 45 55 57 36 45 57 36 45 57 36 45 57 36 45 47 47 47 47 47 47 47 47 47 47 47 47 47	45 55 23 32 41 50 50 50 45 32 32 32 45 45 45 45 45 45 45 45 45 45 45 45 45	36 35 5 36 27 18 27 18 27 27 36 27 27 27 27 27 27 36 27 27 36 27 27 36 27 27 36 27 27 36 27 27 36 27 27 36 27 27 36 27 27 36 27 27 27 36 27 27 27 27 27 27 27 27 27 27 27 27 27	41 42 43 48 47 23 36 27 27 23 32 27 23 32 27 23 32 27 23 32 27 23 32 27 23 32 27 23 32 27 23 32 27 27 23 32 27 27 23 32 27 27 27 27 27 27 27 27 27 2	32 32 14 27 36 9 18 23 36 32 27 41 14 27 18 18 5 27 7 18 18 18 18 23 36 23 41 41 41 41 41 41 41 41 41 41 41 41 41	23 23 27 23 27 25 27 25 27 25 27 25 27 27 27 27 27 27 27 27 27 27 27 27 27	32 9 27 41 32 27 50 55 54 41 55 56 23 36 41 32 36 36 36 36 36 36 36 36 36 36	23 14 32 41 35 45 45 23 32 23 34 45 23 45 45 45 45 45 45 45 45 45 45 45 45 45	1	50 20 20 15 15 15 15 25 35 15 15 30 5 5 35 25 25 32 20 25 25 32 20 25 25 25 25 25 25 26 27 27 27 27 27 27 27 27 27 27 27 27 27	15 10 20 30 20 22 25 25 240 20 20 20 20 20 20 20 20 20 20 20 20 20	35 35 30 25 25 20 10 20 25 20 25 25 20 25 25 20 25 25 20 25 25 25 20 25 25 25 20 25 25 25 20 25 25 25 25 25 25 25 25 25 25 25 25 25	30 10 10 20 20 30 35 10 10 20 20 35 25 25 25 25 25 20 20 20 20 20 20 20 20 20 20 20 20 20	15 15 15 20 20 20 25 20 20 25 20 20 20 20 20 20 20 20 20 20 20 20 20	16 16 16 16 16 16 16 16 16 16 16 16 16 1	21 22 21 23 23 24 25 33 47 35 33 47 35 33 47 47 53 53 47 47 53 53 54 79 55 53 55 56 79 56 56 56 57 57 57 57 57 57 57 57 57 57 57 57 57	37 32 47 32 47 47 26 42 37 26 42 37 47 37 47 37 47 37 47 37 47 37 47 47 37 47 47 47 47 47 47 47 47 47 47 47 47 47	47 47 37 31 32 32 32 32 32 32 32 32 32 32	11 5 21 26 11 0 5 16 21 22 26 11 11 11 11 11 16 5 5 11 16 11 16 5 5 21	16 11 11 16 26 51 47 32 21 26 21 26 21 26 21 26 21 26 21 26 21 26 21 26 21 26 21 26 21 26 21 26 21 26 21 26 21 26 21 26 26 27 27 27 27 27 27 27 27 27 27 27 27 27	1 1 1 2 2 2 2 2 1 1 1 1 1 2 2 2 2 2 1 1 1 1 1 2
			ОМАН	A, NE	EBR. (t	wenty	-two y	ears).							SAL	T LAP	Œ CI'	TY, U	ГАН (eighte	еп уез	rs).			
I	32 14 23 41 32 23 41 32 23 41 28 28 28 28 28 28 14 14 14 28 28 28 14 14 28 28 28 28 28 28 28 28 28 28 28 28 28	14 23 28 28 46 41 23 32 41 23 32 23 41 28 28 23 41 22 23 23 23 23 24 25 27 28 28 28 28 23 23 24 25 26 27 27 28 28 28 28 28 28 28 28 28 28 28 28 28	37	28 28 37 28 41 41 32 46 46 41 46 46 37 55 46 47 23 37 32 37 32 37 32 37 32 37 32 46 47 47 48 48 48 48 48 48 48 48 48 48 48 48 48		555 555 411 37 37 37 555 40 551 411 37 41 413 414 415 415 415 415 415 415 415 415 415			19 41 41 23 25 46 41 46 28 37 51 51 8 32 23 23 23 23 32 23 32 23 32 23 32 23 32 23 32 23 32 24 32 32 32 32 32 32 32 32 32 32 32 32 32	28 28 23 37 37 14 32 32 32 32 32 32 32 32 32 32 32 32 32	28 14 9 28 14 9 23 19 23 23 14 23 23 23 23 23 23 23 23 23 23	9 144 288 288 28 28 23 23 23 23 23 23 23 23 23 23 23 23 23	1	23 17 12 28 45 45 45 45 45 45 45 45 45 45 45 45 45	28 23 17 28 28 28 39 28 39 34 45 39 34 45 39 28 39 34 45 39 28 39 28 39 39 40 39 28 39 45 39 45 39 45 45 45 45 45 45 45 45 45 45 45 45 45	32 32 37 37 43 37 43 43 22 27 43 22 27 53 37 22 16 27 37 37 27 27 27 27 27 27 27 27 27 27 27 27 27	27 27 27 27 37 43 37 58 66 27 47 43 43 43 53 53 27 16 43 32 32 32 32 10 10 10 10 10 10 10 10 10 10 10 10 10	32 16 16 32 22 32 32 37 27 22 10 6 37 32 32 32 32 10 6 10 10 10 25 22 10 43 43 43	27 10 16 16 22 22 22 27 32 27 37 22 27 37 22 6 6 10 0 0 0 10 10 10 10 10 10 10 10 10 10	0 0 0 10 10 10 10 10 10 10 10 10 10 10 1	10 6 16 16 16 10 27 22 22 10 16 16 16 16 16 16 16 16 16 16 16 16 16	27 10 6 16 12 10 10 10 10 6 6 6 10 10 6 6 5 10 10 10 10 10 10 10 10 10 10 10 10 10	16 32 16 16 22 10 16 10 16 10 43 27 27 27 27 27 22 22 22 22 22 27 27 27	10 0 22 27 22 27 43 22 27 43 21 20 21 21 21 22 27 37 36 37 37 37 37 37 37 37 37 37 37	27 32 27 47 32 27 27 27 27 27 22 22 22 22 32 22 23 22 23 43 43 47 53 43 47 47 43
		G/	LVES	STON,	TEX.	(twen	ty-one	years	}+						SAN	FRA	NCISC	O, CA	L. (tw	enty-t	wo yea	ırs).		1	
I. 2. 2. 2. 4. 4. 5. 6. 6. 7. 8. 8. 9. 9. 9. 9. 9. 9. 9. 9. 9. 9. 9. 9. 9.	52 38 38 67 43 38 52 38 38 52 38 33 52 38 33 52 38 39 52 38 39 52 38 38 52 38 52 52 53 54 54 54 54 54 54 54 54 54 54 54 54 54	52 62 62 52 52 57 53 33 33 38 33 33 38 33 33 34 38 33 33 34 35 24 38 33 33 34 35 24 36 36 36 36 36 36 36 36 36 36 36 36 36		57 19 29 24 24 24 24 23 38 19 19 19 19 33 33 31 4 10 10 11 38 29 24 43 43 38 38 38 38 38 38 38 38 38 38 38 38 38	23 18 32 9 32 23 32 23 32 23 32 23 32 23 32 32	14 53 32 18 32 457 23 32 44 27 27 27 23 36 36 36 36 36 36 36 36 36 36 36 36 36	36 32 32 45 32 27 32 27 32 32 32 32 45 32 32 45 32 45 32 45 32 27 27 27 27 27 27 27 27 27 27 27 27 27	18 32 27 45 50 45 18 36 41 45 36 41 45 36 32 22 33 18 8 27 32 23 32	41 32 41 50 50 45 41 36 36 36 36 36 36 36 23 36 23 27 18 41 45 50 32 45 21 82 21 82 21 82 82 82 82 82 82 82 82 82 82 82 82 82	27 27 23 23 14 27 32 18 23 14 23 32 27 14 23 32 27 14 23 23 24 25 27 27 27 27 27 27 27 27 27 27 27 27 27	23 27 14 23 30 41 23 36 42 23 36 45 36 45 36 36 36 37 27 27 27 28 36 36 36 36 36 36 36 36 36 36 36 36 36	14 18 50 45 30 32 32 32 45 45 31 32 45 45 45 45 45 45 45 45 45 45 45 45 45	1 2 3 4 4 5 5 6 6 7 8 8 9 9 10 11 12 11 3 14 15 16 17 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	43 43 44 44	48 39 29 29 43 43 43 53 53 43 53 53 43 53 53 43 53 53 43 53 53 43 54 54 54 54 54 54 54 54 54 54 54 54 54	43 53 48 48 43 43 446 41 7 19 37 28 28 32 41 29 23 23 23 24 31 37 51 51 51 52 52 53 52 54 54 54 54 54 54 54 54 54 54 54 54 54	14 32 41 28 46 41 32 51 46 41 19 28 41 37 37 37 37 23 19 9 9 9 5 5 14 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	19 14 9 28 37 28 37 14 14 14 19 9 5 5 5 5 5 5 14 5 5 9 9 9 14 28	14 59 99 14 99 91 14 99 99 14 99 90 00 00	0500059009550000550000	50055900000550000550555000050	50 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	14 0 9 0 0 0 23 14 4 15 5 5 9 9 14 4 9 9 9 28 23 7 32 14 8 9	23 9 9 23 378 23 378 23 9 14 4 5 9 14 4 19 9 28 14 4 6 4 4 6	5541 55541 28 28 32 41 37 14 51 21 21 21 21 33 40 55 54 55 55 44 53 35 55 51 44 33

Table IV.—Combined averages of hourly occurrences of precipitation at Blue Hill Observatory, near Boston, Mass., Washington, D. C., and Central Park, New York, N.Y., weighting the different records thus: Blue Hill, 1; Washington, 2: Central Park, 8.

Season.	e .	2 a. m.	3 a. m.	4 a. m.	5 P. m.	6 а. т.	7 a. m.	8 a. m.	9 8- m.	ro a. m.	11 A. M.	Noon.	ı p. m.	2 p. m.	3 p. m.	4 p. m.	5 p. m.	6 p. m.	7 p. m.	8 p. m.	9 p. m.	ro p. m.	II P. m.	Midn't.	Mean.
WinterSpringSummerAutumn	3. I 3. I 2. 2	3·4 3·5 2·3 3·0	3·4 3·8 2·2 3·1	3.6 3.6 2.2 3.0	3.8 3.5 2.4 2.9	3·9 3·5 2·2 3·0	3·9 3·5 2·2 2·9	3.9 3.6 2.2 3.0	4.0 3.6 2.1 2.9	3·9 3·5 2·2 2·9	4·2 3·4 2·1 2·9	4.0 3.3 1.9 2.9	3.8 3.1 2.2 2.8	3.8 3.3 2.3 2.9	3·7 3·4 2·4 2·9	3.8 3.5 2.8 2.8	3.7 3.6 2.7 2.9	3·7 3·4 2·9 2·8	3.6 3.6 2.8 2.8	3.7 3.6 2.7 3.0	3.6 3.5 2.7 2.7	3.7 3.6 2.6 2.7	3·4 3·7 2·5 2·9	3·2 3·3 2·1 2·7	3·7 3·5 2·4 2·9

Seasonal averages (amounts, thousandths of an inch).

		i	1 1		1 1			1				1		I	ı		i		1		('		i
Winter		. 136	.134	.135 .138	. 132				. 171	-174	. 159	. 134	. 150	- 141	. 126	. 120	.119	. 125	- 135	. 123	.108	. 201	-133
Spring	· 120 · 123	. 133	· 143	-140 -141	- 137	120	133	. 130	.149	. 128	- 114	154	. I 30	. 147	159	136	. 135	- 141	· 134	· 133	· 142	. 146	137
Summer				146 .123	. 146	· 144	· 133	. 139	. 131	. 124	·114	198	.226	· 147	.231	.225	. 247	. 197	-230	. 167	. 165	130	.153
Autumn				·147 ·135	154	-172	•131	.132	• 137	. 123	. 109	•116	· 155	. 160	· 132	· 137	. 147	• 144	. 171	152	· I24	137	. 136
•			1 1		1					-				ľ]		l			1 1	1 1	i

TABLE V. -Details of precipitation.

ALBANY, N. Y.

[From January, 1874, to December, 1891, inclusive.]

	y dis- ion of	Percentage of days on which rain fell.				Perce			n of rainith (or	ofall: without)	rain.		Heaviest rain in one day.	Greatest consecutive No. of days—		
Month.	Monthly tribution precipitat	Mean.	Max.	Min.	•00	T. to	.26 to	.51 to	1.01 to 2.00	2.01 to 3.00	3.01 to 5.00	Over 5.00	Heavie in one	With- out rain.	With rain.	Notes.
January February March April May June July August September October November December	6.7 7.5 7.5 7.7 9.6 10.0 9.8 8.0 7.2	54-7 53-3 53-4 46-9 49-1 48-3 48-4 40-9 40-1 52-6 54-1 48-9	74.2 79.3 61.3 70.0 71.0 66.7 67.7 74.2 60.0 64.5 63.3 67.7	32. 3 17. 9 35. 5 22. 6 36. 7 29. 0 22. 6 26. 7 19. 4 36. 7 25. 8	45-3 46-6 53-1 50-9 51-6 59-1 59-4 45-9 51-1	41.6 41.3 41.7 35.7 36.3 34.2 32.6 26.9 26.5 30.1 38.7 42.7	7·3 7·9 5·9 5·9 5·9 5·9 6·3 5·9 6·4 6·6 7·4 6·4	5.9 5.2 4.7 5.6 4.8 4.3 4.9	0.9 0.8 0.4 0.0 0.9 2.4 3.1 3.8 2.0 1.3	0.0 0.2 0.2 0.0 0.4 0.2 0.6 0.0 0.0	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	Inches. 1.3 1.5 2.3 2.1 1.9 3.0 2.3 2.2 3.2 1.7 1.8 2.3 3.28	14 12 7 16 15 6 9 12 11 11 8 10	9 9 10 6 9 11 6 8 12 8 9 12	¹ 1890. ² 1877. *September, 1890. *December, 1883; September, 1889.

ALPENA, MICH.

[From October, 1873, to December, 1891, inclusive.]

January 7. I 65. I 7 February 6. 0 61. 8 March 5. 8 55. 0 April 5. 8 45. 3 May 9. 3 43. 0 June 9. 9 44. 2 July 8. 8 43. 5 August 10. 2 42. 4 September 11. 0 47. 5 October 11. 0 55. 6 November 8. 2 64. 5 December 6. 9 67. 2	83.9 41.9 34.9 82.1 21.4 38.2 61.3 22.6 45.0 63.3 23.3 54.7 83.9 25.8 57.0 83.3 20.0 55.8 58.1 19.4 56.5 64.5 19.4 57.6 66.7 26.7 52.5 80.6 38.7 44.4 83.3 43.3 35.5 87.1 48.4 32.8	33.1 5.2 2.8 45.7 5.7 3.4 35.8 5.8 3.0 39.9 5.6 5.6 30.2 6.3 5.3 30.4 5.6 5.4 30.4 5.6 5.4 33.5 6.5 4.5 41.9 6.7 3.9 53.7 5.5 4.3	0.5 0.0 0.0 0.7 0.0 0.0 0.7 0.0 0.0 1.7 0.2 0.0 1.9 0.5 0.0 2.1 0.0 0.0 2.9 0.7 0.0 2.1 0.9 0.0 2.4 0.5 0.2 0.8 0.2 0.0	0.0 1.7 11 0.0 2.2 13 0.0 2.6 13 0.0 2.6 22 20 0.0 1.8 13 0.0 2.5 10 0.0 2.7 10 0.0 3.9 11 0.0 2.3 10	21 11 12 10 10 11 7 6 9 10 13	¹ 1830. ² 1873. ³ June, 1875. ⁴ January and February, 1891.
Year 100.0 52.9	63.81 34.82 47.1	41.3 6.0 4.0	1.3 0.3 0.00	2 0.0 3.9 202	264	

ATLANTA, GA.

[From October, 1878, to December, 1891, inclusive.]

January February Iroh Iv Iy Iy Itember Ober Vember	9.7 11.9 6.8 7.0 8.0 8.6 8.0	54.8 46.6 42.7 42.0 37.5 46.2 45.2 49.4 330.4 36.9	77-4 71-4 64-5 53-3 58-1 70-0 61-3 67-8 63-3 51-6 56-7	41.9 25.0 25.8 23.3 19.4 26.7 19.4 35.5 16.7 9.7	45. 2 53. 4 57. 3 58. 0 62. 5 53. 8 50. 6 66. 2 69. 6	34.5 27.3 23.1 29.2 24.6 30.3 30.0 32.8 21.3 21.2 23.6	6.6 7.6 6.6 5.5 5.5 5.7 4.4 4.5	8.4 5.9 6.7 4.1 4.5 6.2 7.2 2.8 3.0	4.5 4.6 6.0 2.1 2.0 4.1 3.5 2.5 2.8 1.4	I. 2 I. I 0. 5 0. 5 0. 5 0. 5 0. 5 0. 5 0. 5	0.2 0.0 0.2 0.3 0.5 0.0 0.5 0.5	0.0 0.2 0.0 0.0 0.0 0.0 0.0	4.0 3.0 7.4 3.1 3.9 2.2 3.5 4.2 2.2	7 8 14 11 13 14 13 10 17 20	15 13 9 5 12 9 10 7	1 1891. 2 1879. 8 September and October, 1884. 4 January, 1882.
cember	8.9	41.0	54.9	12.0	59.0	24.6	4·5 5·8	6.2	3.5	0.5	0.5	0.0	3.8	13	7	
ear	100.0	42-2	49·3¹	36.42	57.8	26.9	5-7	5-4	3.4	0-6	0.2	0-02	7.4	253	154	

37.81

18.42

Table V.—Details of precipitation—Continued.

ATLANTIC CITY, N. J.

							[From		TLANT 7, 1874, to		, N. J. er, 1891,	inclusi y	e.]			
	Monthly distribution of precipitation.	Percen wh	tage of e	days on fell,		Classification of rainfall: Percentage of days (or without) rain.									itest cutive days—	
Month.	Month! tributi precip	Mean.	Max.	Min.	•00	T. to . 25	.26 to	.51 to	1.01 to 2.00	2.01 to 3.00	3.01 to 5.00	Over 5.00	Heavies in one	With- out rain.	With rain.	Notes.
January February March April May June July September October November December	Per ct. 8.9 8.2 9.2 7.7 6.6 7.3 8.5 11.0 7.7 8.0 8.0	46.8 45.9 50.7 43.3 41.6 38.9 38.0 33.5 38.7 41.9	67.7 64.3 64.5 66.7 71.0 56.7 64.5 61.3 60.0 61.3 56.7	29.0 32.1 32.3 26.7 16.1 20.0 19.4 12.9 10.0 9.7 16.7	53.2 54.1 49.3 56.7 58.4 65.4 61.1 62.0 66.5 61.3 58.1	32.2 29.5 34.2 30.1 28.8 21.7 26.2 25.2 21.1 26.8 25.9 28.1	5.156 5.98 5.98 5.92 5.40 5.44 5.44	7·3 7·3 5·7 5·0 4·7 4·4 4·1 5·5 4·1 5·8	2.2 1.6 2.0 1.9 1.3 2.4 2.0 1.9 2.0 1.9	0.0 0.2 0.2 0.0 0.2 0.5 1.1 0.6 0.0	0.0 0.0 0.0 0.0 0.0 0.0 0.2 0.2 0.2	0.0 0.0 0.0 0.0 0.0 0.0 0.4 0.0 0.2 0.0	Inches. 1.9 1.7 2.2 3.2 2.0 2.7 2.4 9.0 3.2 6.0 3.6 2.3	10 11 8 13 13 11 12 16 21 17	7 6 11 6 12 7 8	1,1889. 2,1874. \$August, 1879. 4October and November, 1874. 5 December, 1875, and January, 1876.
Year	100.0	41.0	47.71	30.19	59.0	27.5	5-8	5.2	2. I	0.3	0.1	0.05	9.08	384	135	_
							[From	Februar		USTA, G o Decem	A. her, 1891	inclusiv	7 e]			•
January February March April May June July August September October November December Year	9·3 7·9 11·2 7·5 7·1 8·7 10·8 10·0 7·7 5·6 6·7 7·5	42. I 39. 8 39. 3 32. 7 32. 1 41. 6 44. 7 46. 7 33. 3 25. 3 33. 0 35. 5	71.0 60.7 61.3 53.3 45.2 58.0 64.5 76.7 51.6 56.7 58.0 44.1	19.4 25.0 22.6 10.0 19.4 22.6 19.4 32.3 16.7 6.5 13.3 9.7	57.9 60.2 60.7 67.3 67.9 58.4 55.3 53.3 66.7 74.7 67.0 64.5	26. 0 23. 9 21. 8 19. 8 20. 7 25. 8 27. 4 29. 0 22. 2 16. 2 20. 7 20. 9	5.38 7.89 4.3 5.92 7.8 3.0 5.9 6.0 5.7	6.6 5.2 5.3 5.8 5.6 5.2 5.2 4.0 2.8 3.7 5.1	3.7 2.4 4.3 2.6 4.3 3.7 3.7 3.9 2.4 1.8 2.0 3.5	0.55 0.55 0.55 0.60 0.55 0.55 0.55 0.55	0.0 0.0 0.5 0.0 0.2 0.0 0.3 0.3 0.3 0.0 0.2	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	2. I 2. 4 4. 4 2. 9 3. I 2. 0 4. 6 3. I 4. 9 2. 4 3. I 1. 6	11 12 14 20 16 14 11 11 18 22 15 20	11 7 6 7 7 10 8 9 11 8 6 7	1 1891. 2 1872. 2 September, 1881. 4 April and May, 1888. 5 July and August, 1879.
		L	<u></u>	l	<u></u>	L	<u> </u>		BALTI	MORE,	M.D.			1		<u> </u>
							From N	ovembe		•	nber, 189	r, inclu	Bive.]			·
January February March March April May June July August September October November December	7.4 8.0 9.6 7.2 7.8 9.2 11.4 10.0 8.7 6.9 6.9	44.4 44.4 47.2 40.6 42.9 37.9 41.8 44.1 36.0 37.2 37.9 39.9	67.7 68.7 67.7 60.0 74.2 63.3 61.3 67.7 66.7 66.3 60.9 58.1	16. 1 21. 4 25. 8 20. 0 16. 1 23. 3 22. 6 22. 6 13. 3 6. 5 20. 0 22. 6 22. 6	55-6 55-6 52-8 59-4 57-1 62-1 58-2 55-9 64-0 62-1 60-1 58-8	30.8 28.7 32.6 28.9 28.6 22.0 27.5 28.9 21.9 26.0 25.6 28.6	7.2 7.4 5.5 6.0 6.7 5.1 5.2 5.6 6.1	5.2 4.9 6.0 3.5 5.4 6.0 4.1 4.8 5.1 3.2 4.7	1.2 3.2 2.6 1.7 1.8 1.9 3.4 3.5 3.2 1.4 1.8 2.2	0.0 0.2 0.3 0.3 0.3 1.1 1.2 0.5 0.3 0.3 0.3	0.0 0.2 0.2 0.2 0.5 0.3 0.3 0.0	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	1.9 2.6 3.5 3.6 2.2 4.5 3.8 4.0 2.8 3.8	13 13 14 21 12 14 12 16 21 11 17	6 11 10 6 13 6 7 14 12 6 7 9	1 1889. 3 1871. *October and November, 1874. 4 August, 1873.
					·	<u>-</u>	ł		BISMAR			'		'	_	·
								mber 16	, 1874, to	o Decen	ber 31,	1891, inc		· - ·		<u> </u>
January February March April May May June July August September October November December Year	3. I 3. 7 5. 2 12. 4 13. 6 18. 8 13. 0 11. 4 5. 7 5. 7 3. 7 3. 7	36.4 38.6 37.4 34.6 47.5 39.5 28.9 33.3 36.1	51.6 72.0 48.4 63.3 87.3 70.0 61.3 54.8 50.0 51.6 63.3 58.0	16.0 7.0 19.4 20.0 29.1 20.0 19.3 12.9 10.0 6.4 16.7 9.7	63.6 61.4 62.6 65.3 55.4 52.5 60.6 74.5 71.1 66.7 63.4	35.6 37.5 33.8 26.4 34.7 32.8 28.3 22.6 21.7 23.7 31.5 35.1	0.6 1.0 2.1 3.9 5.3 8.4 5.7 4.2 1.4 3.8 1.4 0.9	0.2 0.1 1.5 3.3 3.6 3.1 4.2 2.0 1.4 0.2 0.6	0.0 0.0 1.0 1.0 0.2 1.3 1.1 0.4 0.0 0.2	0.0 0.0 0.1 0.0 3.0 0.6 0.0 0.0 0.0	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0.6 0.6 0.9 2.4 1.9 2.4 1.8 2.2 1.6 1.0	14 20 12 14 12 15 15 14 15 19 18 27	9 7 10 10 9 11 5 7 6 5 9 9	11877. 11880. January and February, 1877. June and July, 1888.
							[From		BOISE 0	•	AHO. er, 1891,	inclusiv	e.]			
January February March April May June July August September October November December Year	15.7 11.3 9.8 8.3 9.8 7.5 1.5 3.9 6.0 15.8	42.9 45.3 33.6 30.7 30.7 31.7 11.0 8.4 11.8 26.2 27.1 42.6	61. 3 67. 9 61. 3 53. 3 48. 4 63. 3 29. 0 19. 4 36. 7 77. 4	22.6 10.7 6.5 6.7 5.3 3.3 0.0 0.0 3.3 3.2 0.0 6.5	57. I 54. 7 66. 4 69. 3 68. 3 89. 0 91. 6 88. 2 73. 8 72. 9 57. 4	34.6 37.2 28.5 25.0 25.3 27.4 10.3 7.7 10.4 22.3 24.2 34.8	6.0 6.1 3.5 5.5 3.0 0.6 0.6 0.7 2.2 2.7 5.8	2. I 2. 0 1. 2 0. 2 1. 6 1. 7 0. 0 0. 0 0. 7 1. 7 0. 2 1. 5	0. 2 0. 0 0. 5 0. 0 0. 2 0. 0 0. 0 0. 0 0. 0	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.2 0.0 0.0 0.0 0.0 0.0	I.I.O.8 I.3 O.8 I8.O3 I.I.O.4 O.9 O.9 O.7 I.I.I.I.I.I.I.I.I.I.I.I.I.I.I.I.I.I.I	17 14 24 13 23 23 31 31 29 21 30 18	11 10 11 6 9 6 4 4 6 8 13	¹ 1885. ³ 1883. ³ 1897. Cloud-burst, about 18 inches on level ground; gauge washed away. ⁴ July 12 to deptember 15, 1891. ⁵ December, 1884.

BOSTON, MASS.
[From November, 1870, to December, 1891.]

							[Fr	om Nov	ember,	1870, to	Decembe	r, 1891.]				
	y dis- on of itation.	Percen wh	tage of d	lays on fell.		Perce			on of rain		rain.		st rain day.	conse	test cutive days—	Notes.
Month.	Monthly dis- tribution of precipitation.	Mean.	Max.	Min.	.00	T. to .25	.26 to	.51 to	1.01 to 2.00	2.01 to 3.00	3. or to 5. oo	Over 5.00	Heavies in one	With- out rain.	With rain.	
January February March April May June July August September October November December	7.8 9.4 8.1 7.4 7.4 7.6	42.2 42.8 44.9 38.9 39.5 38.4 36.8 36.3 39.7 41.6	67.7 67.9 67.7 60.0 71.0 60.0 54.8 54.8 53.3 63.3 61.3	12.9 10.7 29.0 20.0 12.9 23.3 25.8 12.9 10.0 23.4 26.7 16.1 28.8 ²	57.8 57.2 55.1 60.0 61.6 63.9 63.9 63.7 60.3 58.4	24.6 28.0 28.4 25.3 25.8 22.2 25.6 22.2 25.7 23.2 24.2 27.7	8.6 6.7 7.1 7.0 5.7 6.0 4.5 5.8 4.4 6.6 6.1	6.546 5.63 5.32 6.16 4.66 4.7 5.0	2.2 2.5 3.2 2.2 1.7 2.0 2.4 2.2 3.1 2.9 1.8	0.3 0.6 0.2 0.5 0.5 0.5 0.5 0.5	0.0 0.2 0.0 0.0 0.3 0.0 0.6 0.3 0.3	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	Inches. 2.9 4.4 2.6 2.6 3.0 4.4 2.1 3.6 2.7 4.2 3.8 2.6	14 22 9 12 16 15 14 14 16 13 13 17	7 6 8 10 9 7 5 6 10 6 6 6	¹ 1890. ² 1871. ³ August and September, 1874. ⁴ April, 1878; September, 1890.
	١ . ١		-		_				BUFF	ALO, N	. Y.		1	·		·
		-					[From l	lovembe	er, 1879, 1	to Decer	nber, 189	r, inclus	sive.}			<u> </u>
January February March April May June July August September October November December Year	7·3 6·5 7·9 9·4 8·9 8·1 8·9 9·4	72.8 63.7 65.4 48.1 47.6 44.1 42.2 38.1 46.0 52.1 60.9 69.1	90. 3 89. 3 83. 9 66. 7 77. 4 63. 3 74. 2 67. 7 66. 7 83. 9 80. 0 90. 3	48.4 31.0 29.0 29.0 19.4 30.0 29.0 16.1 23.3 25.8 33.3 45.2	27. 2 36. 3 34. 6 51. 9 52. 4 55. 9 57. 8 61. 9 54. 0 47. 9 39. 1 30. 9	62.2 51.1 55.1 37.0 35.0 29.8 29.2 27.0 33.0 36.3 44.8 54.8	6.0 7.8 6.6 7.1 6.6 6.8 5.7 6.0 8.1 9.5 9.1	3.8 2.9 3.2 4.1 5.9 3.2 4.6 6.1 5.5 4.0	0.8 1.0 0.8 0.8 1.9 1.4 2.8 2.2 1.1 0.8 1.2	0.0 0.0 0.0 0.0 0.0 0.2 0.6 0.2 0.5 0.3	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0.0	1.4 1.5 1.4 1.7 1.6 2.0 2.7 3.2 2.4 2.6 1.7	8 8 8 22 15 10 9 11 10 15 8 8	22 15 15 9 8 11 8 6 9 13 10	¹ 1890. ² 1871. ² April, 1871. ⁴ January, 1876; December, 1886, to January, 1887; February to March, 1890.
	1					<u> </u>				RO, ILL						·
	_						[Fron	n July,			or, 1891, i	nolusive	o.]			
January February March April May June July August September October November December	9.4 8.9 8.7 8.7 10.3 8.2 6.6 5.7 6.4 10.0	48. I 43. 7 44. 7 41. 0 40. I 45. 4 33. 2 28. 6 28. 3 28. 6 38. 7 41. 3	67.7 62.1 64.5 56.7 61.3 70.0 54.8 54.8 66.6 64.5 53.3 58.1	22.6 26.8 29.0 26.6 19.4 16.6 3.2 9.7 3.3 9.7 13.3 16.1	51.9 56.3 55.3 59.9 54.6 66.8 71.4 71.7 71.2 61.3 58.7	34.4 27.4 29.2 27.0 25.6 29.1 19.8 17.7 19.4 17.5 22.8 29.6	506.26 7 30 2 56 I 5.5 5.5 5.5	4.8 5.9 4.6 5.0 4.9 3.7 5.5 5.0 7 4.9	2.7 3.5 3.5 3.7 3.5 2.1 3.7 2.3 1.5 0.8 3.9 2.6	0.5 0.3 0.1 0.0 0.7 0.8 0.5 0.1 0.3 0.3	0. 2 0. 0 0. 0 0. 0 0. 2 0. 0 0. 0 0. 0	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	4. I 2. 7 2. 4 2. 5 4. 2 3. 3 2. 7 3. 0 2. 9 3. I 2. 9 2. 5	10 9 - 15 12 13 16 16 27 15 12 13	7 11 7 7 8 13 7 6 8 6 7 10	1 1888. 2 1872. 98eptember and October, 1891. 4 June, 1888.
			- · ·			£		'	CAMP V	ERD E ,	ARIZ.					
	-				-		[From	January	, 1870, to	Septem	ber, 1890	, inclusi	ive.]			
January February March April May June July August September October November December	7.6 8.4 4.6 2.3 1.5 13.8 21.4 8.4 5.3 7.6	11.2 14.8 13.2 11.0 6.0 4.1 22.7 24.0 9.4 8.7 9.5 14.7	32·3 34·5 41·9 23·3 25·8 20·0 38·7 23·3 19·4 46·7 48·4	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	88.8 85.2 86.8 89.0 94.0 95.9 77.3 76.0 90.6 91.3 90.5 85.3	7.7 10.5 8.6 5.0 3.7 16.6 15.4 4.6 5.5 6.5 7.1	1.4 2.58 2.4 0.5 0.2 2.9 3.5 1.9 1.3 7	1.2 1.7 1.2 0.6 0.5 0.3 2.2 2.8 1.3 0.6 1.1 3.1	0.9 0.2 0.6 0.2 0.0 0.0 1.1 2.0 1.1 0.6 0.8	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0.0	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	1.9 1.3 1.4 1.1 0.9 1.0 1.7 2.6 1.8 1.5 1.7 1.6	31 28 31 30 31 30 31 23 30 31 30 31 30 31	6 5 4 3 5 3 4 7 4 6 6 5 7	1:888. 2:87: and :875. 3:1878. 4:April 13 to July 8, :879. 5:August, :878.
									CEDAR	KEYS,	FLA.		-	•		
					<u>.</u>	. -	[From	Novem	ber, 1879	, to Mar	ch, 1890,	inclusiv 	re.]		- ,	
January February March April May June July August September October November	5.6 6.6 4.8 4.4 13.1 16.8 14.8 10.4 5.4	34.3 28.0 29.6 22.0 27.1 44.0 52.3 49.0 37.0 28.4 25.0 29.3	51.6 48.3 58.1 36.7 45.1 53.3 71.0 61.3 63.3 42.0 60.0 48.4	12.9 7.1 16.1 10.0 9.7 33.3 32.3 32.3 16.7 9.7 6.7	65.7 72.0 70.4 78.0 72.9 56.0 47.7 51.0 63.0 71.6 75.0	20.8 20.2 19.9 14.3 19.1 23.7 28.4 27.4 23.4 20.3 16.0 20.5	5.6 2.3 2.3 1.7 2.9 5.4 7.1 4.8 4.3 2.6 3.4 3.2	3·5 2·3 2·9 4·0 2·9 7·3 7·3 8·4 3·3 3·8	3.5 1.9 3.9 1.7 1.9 5.8 6.1 3.7 1.6 2.2	0.6 1.0 0.6 0.0 2.3 1.3 1.7 1.3 0.0	0.3 0.0 0.3 0.3 0.3 1.3 1.0 0.3 0.0	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	3.6 3.3 2.5 3.8 3.1 4.5 4.9 7.0 2.9 2.7	20 23 9 23 17 10 7 7 22 16 18 31	8 7 7 3 6 8 10 7 17 6 8 5	¹ 1888. ² 1883. ³ November, 1889; January, 1890. ⁴ August and September, 1888.

Year 100.0 33.9 40.31 25.52 66.1 21.2 3.8 4.3 3.2 0.9

Year 100.0

53.41

30.32

32.5

5-3

4.2

1.7

0.1

5.6

218

RAINFALL AND SNOW OF THE UNITED STATES.

TABLE V .- Details of precipitation-Continued.

CHARLESTON, S. C.

	_						[From	Januar	y, 1871, t	o Decem	ber, 1891	, inclus	ive.]			
	y dis- ion of itation.	Percen whi	tage of c	iays on fell.		Perc	Clas entage o	sificatio f days w	n of rain	nfall; without	rain.		feaviest rain in one day.	Grea consec No. of	cutive	W-17
Month,	Monthly dis- tribution of precipitation.	Mean.	Max.	Min.	• 00	T. to .25	.26 to	.51 to	1.01 to 2.00	2.01 to 3.00	3.01 to 5.00	Over 5.00	Heavier in on	With- out rain.	With rain.	Notes,
anuary Pebruary March April May une uly August Detober November December	Per ct. 7.1 5.8 7.3 7.1 7.3 9.0 13.1 12.9 10.8 7.8 5.7 6.1	36.9 37.8 34.3 29.5 30.6 39.4 39.8 42.5 38.6 27.2 27.5 31.8	61.3 75.0 48.4 43.3 61.3 63.3 58.1 66.7 48.4 60.0 58.1	12.9 17.9 22.5 10.0 12.9 16.7 16.1 32.3 20.0 3.2 13.3 3.2	63.1 62.2 65.7 70.5 69.4 60.6 60.2 57.5 61.4 72.8 72.5 68.2	22.5 23.8 19.8 17.9 17.1 23.8 21.2 25.4 19.8 16.8 17.1 21.6	5.1 5.9 3.5 4.4 4.97 6.77 3.18 4.86	6.3 4.7 4.6 5.1 4.3 6.7 5.0 4.1 5.7 3.1 2.7 4.5	2.0 2.9 3.2 2.1 1.8 2.9 5.7 4.6 4.0 2.4 2.0	0.8 0.3 0.6 0.3 1.1 1.0 1.7 2.2 1.7 0.8 0.2	0.2 0.0 0.2 0.3 0.2 0.6 1.1 0.55 0.5	0.0 0.0 0.3 0.2 0.0 0.2 0.2 0.2 0.2	Inches. 3.8 2.1 8.3 5.1 6.3 5.1 4.9 5.1 5.4 5.4 5.2 5.3 3.5	18 13 15 13 17 14 18 10 15 25 19	7 10 6 6 9 9 10 8 10 8 6 8	¹ 1887. ² 1872. ³ November and December, 1889. ⁴ September, 1877; February, 1887; July 1890.
ear	100.0	34-7	41.91	26.22	65.3	20-6	4.9	4-7	3.0	0.9	0-5	0.1	8-3	348	104	
							/ Passer	Y		OTTE,		(malma)	we t			
							(From	January	, 1879, 10	Decem	ber, 1891,	ineiusi	ive.]		_	
fanuary February March April Way une uly August September October November Oecomber	5.9 8.2	46.7 40.9 40.2 35.1 41.7 44.1 45.7 41.7 30.8 29.0 33.1 38.0	71.0 60.7 58.0 46.7 71.0 60.0 67.7 64.5 70.0 45.2 53.3 48.4	35.5 21.4 25.8 23.3 16.1 26.7 29.0 19.4 16.7 6.5 16.7 16.1	53·3 59·1 59·8 64·9 58·3 55·9 54·3 58·3 69·2 71·0 66·9 62·0	26.8 22.6 19.1 21.2 26.0 27.4 26.8 24.8 21.5 17.8 20.5 23.8	7.7 7.9 7.96 5.5 5.4 6.7 5.4 4.0 6.6 4.7 5.9	7.5 5.7 9.5 5.4 6.7 7.7 7.0 3.6 3.6 2.5 6.2 5.9	4.5 4.4 3.5 2.1 2.5 2.3 3.2 4.0 1.3 3.7 2.1 2.8	0.2 0.3 0.8 0.5 1.3 1.0 0.5 1.0 0.5	0.0 0.0 0.0 0.5 0.7 0.5 0.5 0.0 0.0	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	2.2 2.1 2.6 2.4 4.8 2.8 4.2 3.6 2.8 2.8 2.8 2.8	10 12 11 11 13 17 10 13 18 18 18 13 12	9 7 11 7 9 11 11 9 11 8 7 7	11888, 1891. 21881. 3 May, 1886. 4September and October, 1886. 5 August and September, 1888.
							- 72.			OOGA, T	FNN				-	
						1	From F				er, 1891,	inclusiv	re.]			
lanuary February March Lyril May une (uly lugust leptember November December	12-3 10-4 11-6 7-9 7-2 8-1 6-9 7-4 7-4 5-4 7-5 7-9	59-1 55-3 51-4 46-9 44-4 53-3 49-6 49-9 40-3 36-7 46-7	74-2 75-0 71-1 60-0 61-3 73-3 61-3 74-2 66-7 67-7 86-7 64-5	35·5 31·0 38·7 30·0 25·8 26·7 35·5 29·0 16·1 13·3 29·0	40.9 44.7 48.6 53.1 55.6 46.7 50.4 50.1 59.7 63.3 59.2 53.3	35.2 32.2 31.3 30.3 29.8 36.4 35.2 35.5 24.1 25.9 29.8	8.6 7.6 6.7 6.7 6.2 5.4 6.7 6.5 5.4 5.7	9.1 9.5 6.5 7.2 8.5 4.0 5.2 4.6 5.2 4.9 7.4	4.6 4.9 5.0 1.5 2.5 2.1 3.7 3.2 4.9 2.2 3.8 2.7	1.3 0.8 1.2 1.3 0.7 1.0 0.0 0.0 0.3 0.0 0.8 1.0	0.3 0.3 0.2 0.0 0.0 0.0 0.0 0.0 0.0	0.0 0.0 0.2 0.0 0.0 0.0 0.0 0.0 0.0 0.0	3.5 3.2 6.0 2.6 2.9 1.9 2.1 1.8 3.0 2.9	7 10 13 10 13 10 8 10 17 21	14 10 9 7 12 13 7 10 6 10	¹ 1889. ² 1886. ³ September and October, 1879. ⁴ November, 1889.
Year	100-0	47-9	52.91	46.32	52.1	30.9	6.3	6-4	3-4	0-7	0.1	0.02	6.0	253	194	
			×				[From]			NNE, W	YO. aber, 189	r. inclus	sive.1			
February February March April May Yune Tuly August September October November December	3·3 3·3 5·7 12·4 18·2 12·4 14·1 12·4 8·3 5·7 2·5 1.7	23.7 26.0 29.5 37.3 44.2 35.1 39.9 40.7 22.1 23.0 21.4	41.9 41.4 58.0 60.0 80.7 53.3 58.0 61.3 46.7 41.9 43.3 51.6	9-7 17.2 6.5 16.7 9-7 13.3 12.9 0.0 3.2 10.0 6.5	76-3 74-0 70-5 62-7 55-8 64-9 60-1 77-1 77-9 77-0 78-6	22.9 24.9 27.0 30.6 35.7 28.4 33.3 35.3 18.9 19.3 22.0 21.2	0.3 0.9 2.0 5.1 4.5 4.3 4.6 2.9 2.1 1.5 0.8 0.2	0.5 0.2 0.5 1.3 3.2 1.8 1.5 2.2 1.7 1.1	0.0 0.0 0.3 0.8 0.6 0.5 0.3 0.2 0.2	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0.9 0.5 0.9 1.3 1.9 1.2 1.4 1.4 0.5 0.3	20 20 21 16 23 17 14 12 30 29 22 28	6 4 5 8 12 9 8 8 6 5 5 5 5 5 5	1 1888. 2 1871. 3 1876. 4 September and October, 1879. 5 May and June, 1889.
					1							_				
							[From	Novemb		AGO, II to Decer	nber, 189	, inclus	ive.]			
January February March April May June June July September October November	6, 2 6, 5 7, 0 8, 8 10, 2 10, 2 10, 4 10, 0 7, 9 9, 0 7, 6 6, 2	47-2 47-4 50.2 46.8 44-1 45-6 37-2 35-5 36-2 41-0 46-4 50-0	74.2 71.4 71.0 63.3 64.5 70.0 51.6 61.3 60.0 61.3 76.7 71.0	22.6 10.7 29.0 30.0 29.6 20.0 22.6 10.0 12.9 6.7 29.0	52.8 52.6 50.0 53.2 55.9 54.4 62.8 64.5 63.8 59.0 53.6 50.0	38.1 37.1 40.2 34.4 30.1 31.4 24.3 24.9 25.8 27.8 34.8 41.5	5.57 5.72 5.62 5.66 4.88 4.44 56.55 4.1	2.8 3.0 2.3 4.9 6.5 5.9 5.7 3.78 5.5 4.0 3.2	0.8 1.6 1.2 2.1 2.0 2.2 2.3 2.0 2.0 2.0 0.8 1.0	0.0 0.0 0.0 0.2 0.6 0.5 0.5 0.0 0.1	0.0 0.2 0.0 0.0 0.0 0.1 0.0 0.1 0.0 0.3	0.0 0.0 0.0 0.0 0.0 0.0 0.1 0.0 0.0	1.5 1.9 3.2 2.4 2.5 2.9 4.1 5.6 3.4 2.2 3.3 2.5	12 21 10 10 16 11 13 16 14 15 16	7 12 12 9 10 10 7 7 10 9 8 12 8	11887. 21872. 3 November and December, 1870, and Febru ary, 1877. 4 July and August, 1880.

CINCINNATI, OHIO.

[From November, 1870, to December, 1891, inclusive.]

		•					[From]	Novemb	er, 1870,	to Decer	nber, 1891	, inclus	ive.]			
Month.	Monthly dis- tribution of precipitation.		tage of c			Perce	Classentage of	sification days w	on of rais	nfall: without) rain.		leaviest rain in one day.		test cutive days—	Notes.
	Month tribut precip	Mean.	Max.	Min.	• • • • •	T. to	.26 to	.51 to 1.00	1.01 to 2.00	2.01 to 3.00	3. or to 5.00	Over 5.00	Heavie in on	With- out rain.	With rain.	
January	Per ct. 8.4 9.1 8.7 7.2 8.2 11.3 8.9 9.6 5.8 6.5 8.4 7.9	56. 5 50. 4 53. 9 46. 8 49. 8 49. 8 43. 0 35. 9 37. 9 47. 2 50. 4	77-4 72-4 74-2 73-3 71-0 70-0 74-2 58.1 50-0 67-7 73-3 74-2 69-61	19-4 14-3 35-5 23-3 25-8 20-0 16-2 19-4 16-1 20-0 32-3	43.5 49.6 46.1 53.2 50.2 57.0 61.0 62.1 52.8 49.6	43.0 33.9 38.6 34.3 30.2 28.5 24.8 25.6 32.9 39.3	6.6 7.6 6.7 8.6 6.7 8.0 6.1 5.1 5.5 5.5 6.4	4.4.2 5.4.3 4.6.5 4.9.6 8.5.4.9 6.5.4.9 6.5.3.8 5.1	1.8 3.4 1.2 1.6 2.2 2.4 2.6 3.1 1.3 0.6 2.9 1.5	0.3 0.2 0.3 0.0 0.5 0.5 0.5 0.2 0.6 0.3 0.0	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	Inches. 3.0 2.7 2.5 1.9 2.6 2.4 2.6 2.2 1.8 2.7	7 12 8 13 16 11 13 19 14 13 13 12	15 10 11 8 8 10 8 11 6 9 10	¹ 1890. ² 1871. ³ August, 1889. ⁴ January, 1873.
	100.0	40.4	03.0		33.0	32.3			1.	1			3.0	.9	-3-	
							[From			LAND, C	0HIO. mber, 189	ı, inclu	sive.]			
January February March April May June July August September October November December Year	8.5 10.6 10.6 8.2 10.1 8.0 8.0	65.6 61.2 61.9 48.9 46.7 46.0 42.4 37.2 42.7 50.1 59.2 65.0	87.1 86.2 87.1 70.0 80.6 66.7 58.1 71.0 56.7 83.9 80.0 87.1	25.8 25.0 35.5 36.7 22.6 26.7 25.8 16.1 26.7 16.1 33.3 48.4	34.4 38.8 38.1 51.1 53.3 54.0 57.6 62.8 57.3 49.9 40.8 35.0	55.9 49.2 50.4 39.0 32.4 31.1 29.1 26.7 28.2 37.8 47.1 55.2	6.0 5.6 7.2 5.7 7.3 6.9 4.4 5.7 7.7 5.9 6.4	3.2 4.51 3.7 4.7 4.3 3.51 6.3 3.1 3.2	0.5 1.7 1.2 0.5 2.2 2.5 1.8 2.5 1.7 0.7	0.0 0.0 0.0 0.2 0.6 1.1 0.3 0.5 0.2 0.2	0.0 0.2 0.0 0.0 0.0 0.2 0.0 0.2 0.0 0.0	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	1.8 3.6 1.4 1.2 2.1 3.1 2.7 3.5 2.3 2.4 2.2 1.9	8 7 10 10 9 13 12 18 10 11 8 7	21 9 15 9 13 9 8 11 10 9 11 20	1890. 1871. 1883. 4 August, 1881. 6 December, 1887; January, 1888.
-		J-12		33 9	***	43.5			1		1 . 1			1 -5		
							[Fro	m July,		BUS, Ol Decembe	HIO. 9r, 1891, ir	nclusive	o.]			
January February March April May June July Angust September October November December	8.4 9.1 8.1 7.2 11.4 9.1 8.9 8.1 6.7 7.2 8.4 7.4	63.3 60.8 60.0 50.5 49.9 51.0 42.2 40.3 39.3 42.9 49.0 55.3	83.9 82.7 74.2 86.6 71.0 76.6 90.3 58.1 50.0 87.1 76.6 67.7	45. I 39. 0 45. 2 26. 6 25. 8 30. 0 29. 0 22. 6 13. 3 19. 4 35. 5 16. I	36.7 39.2 40.0 49.5 50.1 49.0 57.8 59.7 50.7 57.1 51.0 44.7 49.6	50.4 45.5 46.6 38.0 31.3 35.0 26.3 28.3 30.7 35.5 44.2	6.7 7.1 6.5 5.1 7.4 7.9 3.2 5.5 5.3 7.1 6.4 6.2	5.0 5.7 5.7 5.7 6.2 4.3 3.7 5.2 5.3	1.2 1.9 1.2 1.5 3.2 1.5 2.1 1.8 1.4 0.9 1.9 0.7	0.0 0.3 0.3 0.3 0.5 0.5 0.5 0.5	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	2.0 2.2 1.7 2.1 2.6 2.5 2.8 2.1 1.9 2.2 2.8 1.4	7 6 7 9 10 10 12 13 16 14 11 10	12 13 11 11 12 22 10 8 13 14 12	1 1888. 1891. 3 September and October, 1885. 4 July, 1888.
		<u>'</u>		<u> </u>	·	!	<u>' </u>	1	DAVENE	ORT, IC	DWA.			<u>!</u>		1
	-		-				[From	April,	1872, to	Decembe	er, 1891, 	inclusiv —	re.] -			
January Rebruary March March April May June July August September October November December		42.3 42.2 42.6 41.8 46.6 51.0 34.2 37.7 36.0 35.6 37.3 42.9	74.2 69.0 61.3 60.0 74.2 73.3 51.6 54.8 56.6 64.5 53.3	12.9 14.3 25.8 30.0 29.0 26.6 16.1 16.6 16.1 20.0	57.7 57.8 57.4 58.2 53.4 49.0 65.8 62.3 64.0 64.4 62.7 57.1	35·7 35·4 33·9 30·5 29·5 20·8 25·5 23·5 23·5 28·8 36·5	3.4 3.6 5.1 5.5 7.7 8.5 4.6 5.3 3.7	2.2 2.6 2.4 4.1 6.0 6.8 4.2 5.0 4.5 2.8	1.0 0.2 1.2 1.0 2.7 2.8 2.9 2.4 2.5 1.4 1.2	0.0 0.4 0.0 0.2 0.7 0.2 0.4 0.5 0.5 0.5	0.0 0.0 0.2 0.0 0.2 0.2 0.3 0.3 0.2	0.0 0.0 0.0 0.0 0.0 0.0 0.2 0.0 0.0 0.0	1.8 2.9 3.1 2.8 3.5 5.2 4.8 3.7 4.1 2.1	10 16 12 10 12 9 14 15 15 15	7886 911 797868	11884. 21879. August and September, 1888. June, 1882.
Year		40.8	49·3¹	34.22	59-2	29.7	5.2	3.9	1.6	0.3	0. 1	0-02	5-2	248	114	
		_							- DENV	 ER, COI	. 0.	-				
		-				_ {!	From De	ecember	, 1871, t -	o Decem	nber, 1891	r, inclu	si v e.j			 .
January February March April May June July August September October November December Year	4.8 3.4 6.8 14.4 18.5 9.6 10.3 6.2 5.5 5.4 4.8	19.5 22.5 26.6 35.0 41.6 33.8 39.2 41.3 24.4 20.0 20.7 20.4	35.5 35.7 51.6 60.0 70.9 73.3 67.7 67.7 53.3 38.7 46.6 48.4	6.4 7.0 9.7 13.3 9.7 6.6 9.7 19.3 3.3 6.4 6.6 10.0	80.5 77.5 73.4 65.0 58.4 66.2 60.8 58.7 75.6 80.0 79.3 79.6	17.4 20.5 23.0 26.3 32.3 29.0 34.2 35.0 21.0 16.5 17.8 17.8	1.6 1.6 2.3 4.8 5.2 2.9 2.3 3.7 2.7 2.4 1.8	0.3 0.4 1.1 3.2 2.6 0.9 1.3 2.0 1.2 0.8 0.5	0.2 0.0 0.2 0.5 1.0 1.0 0.6 0.0 0.0	0.0 0.0 0.2 0.3 0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.2 0.0 0.0 0.0 0.0 0.0	i.2 0.7 1.1 2.3 6.5 1.8 1.6 1.3 0.9 0.9 0.9	22 18 19 13 17 15 13 24 25 22 31	4 6 6 12 12 9 9 10 5 6 5 5	¹ 1891. ² 1873. ³ September and October, 1873. ⁴ April and May, 1885.

Table V.—Details of precipitation—Continued.

FORT BUFORD, N. DAK.

							[From		RT BUI 1879, t			, inclus	ive.]			
	Monthly distribution of precipitation.		tage of d			Perce			n of rain ith (or v		rain.		Heaviest rain in one day.	Grea consec No. of	cutive	Notes.
Month.	Monthl tributi precip	Mean.	Max.	Min.	.00	T. to .25	.26 to .50	.51 to	1.01 to 2.00	2.01 to 3.01	3, 01 to 5.00	Over 5.00	Heavie in one	With- out rain.	With rain.	Notes.
January February March April May June July August	Per ct. 3.7 3.7 3.7 7.4 16.1 20.5 14.7 9.6 6.6	36.6 42.2 36.7 35.6 39.7 51.3 40.9	51.6 64.3 51.6 70.0 64.5 70.0 61.3 45.2	19.4 17.9 19.4 20.0 19.4 30.0	63.4 57.8 63.3 64.4 60.3 48.7 59.1	34.7 42.0 36.0 31.0 33.0 38.2 33.6 24.1	1.6 0.3 0.5 2.3 3.5 5.9 3.5 2.6	0.0 0.0 0.2 2.1 2.2 4.9 3.3	0.3 c.0 0.0 0.3 1.0 1.8 0.3	0.0 0.0 0.0 0.0 0.3 0.3	0.0 0.0 0.0 0.0 0.3 0.0	0.0 0.0 0.0 0.0 0.0 0.0	Inches. 1.4 0.3 0.6 1.1 1.2 3.2 2.1	10 11 14 12 14 8 12 22	10 7 9 10 10 11 8	¹ 1884. ² 1882. ³ 1885. ⁴ September 15 to October 9, 1885. ⁵ June, 1885.
September October November December	6.6 3.7 3.7	23.6 36.7 31.3 33.7	43·3 54·8 50·0 54·8	3·3 3·2 6·7 16·1	76.4 63.3 68.7 66.3	33.0 30.8 32.0	2.0 0.3 1.5	0.5 1.5 0.0 0.2	0.5 0.2 0.3 0.0	0.0	0.0	0·0 0·0	I.4 I.I I.I 0.7	21 23 19	9 9 6	.,
Year	100.0	36.4	43.21	29.32	63.6	32.4	2.2	1.4	0.4	0.05	0.02	0.0	3.28	254	116	
							[From		ORT CU t, 1879, to			inclu s iv	/e.]			
January February March April May June July August September October November December	6.2 3.9 4.7 8.6 15.6 21.9 7.8 8.6 6.3 7.0 3.1	28.5 28.6 26.7 27.3 36.6 35.4 21.5 18.5 21.6 16.9 27.4	61.3 42.8 45.1 36.6 67.7 56.6 29.0 32.2 40.0 41.9 46.6 63.2	9.7 7.1 3.2 23.3 19.3 20.0 9.7 6.4 3.3 6.4 6.6 12.9	71.5 71.4 73.3 72.7 63.4 64.6 78.5 81.4 81.5 78.4 83.1	26.7 28.3 25.5 23.7 28.7 23.6 18.0 13.9 15.1 17.5 15.6	0.9 0.3 0.9 2.4 5.0 6.7 1.9 2.6 3.0 1.1	0.9 0.0 0.3 0.6 2.0 3.3 1.6 1.3 0.8 0.8	0.0 0.0 0.6 0.9 1.2 0.0 0.2 0.0	0.0 0.0 0.0 0.0 0.6 0.0 0.0 0.0	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0.9 0.3 0.6 1.3 1.9 2.3 1.0 1.4 0.5 3.8 1.2	19 16 29 17 9 14 16 27 25 29 24	7 4 6 7 6 6 5 6 5 5 4 6	No record from November 23 to December 31, 1881. No record from January 1 to June 30, 1883, inclusive. 1891. 2, 1885. 3 October and November, 1891. 4 January, 1881; April, 1884.
Year	100-0	25.6	29.81	14.28	74-4	21.8	2.5	1.0	0.3	0.05	0.02	0.0	3.8	39 ⁸	7*	
	,						[From		ORT E , 1879, to		*	, inclus	ive.]			
January February March April May June July August Beptember October November December	7.8 11.2 2.6	17.6 19.0 19.4 25.2 33.4 27.3 27.0 30.5 19.1 22.1 13.6	32. I 32. I 32. 3 50. 0 51. 6 46. 7 38. 7 48. 4 30. 0 51. 6 30. 0	7.1 6.9 6.5 6.7 12.9 10.0 12.9 6.7 6.5 0.0	82.4 81.0 80.6 74.8 66.6 72.7 73.0 69.5 80.9 77.9 86.4 84.5	15-5 17-5 17-9 13-7 18-7 15-8 17-9 12-5 14-1 11-2	1.2 0.6 0.6 6.1 6.2 4.2 5.3 5.0 3.0 2.9 1.2 2.3	0.3 0.6 0.6 3.0 4.7 4.2 2.3 5.0 2.4 2.1 1.2	0.6 0.3 0.3 2.1 2.3 2.2 0.9 2.6 c.9 2.7 0.0	0.0 0.0 0.3 0.9 0.3 0.0 0.3 0.3 0.3	0.0 0.0 0.0 0.6 0.0 0.3 0.0 0.0 0.0	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	1.4 1.1 2.8 3.3 2.4 3.5 1.8 2.1 2.3 0.7	26 20 26 27 14 18 14 20 18 30	6 3 4 7 6 7 6 9 6 5 4 4	11884. 21889. 3 November and December, 1889; January, 1890. 4 August, 1884.
Year	100.0	22.5	27.31	18- 12	77.5	15.5	3.2	2.2	1.3	0.2	0.1	0.0	3.5	488	94	
							[Fro		FORT S 1882, to			nclusive	e.]			
January February March April May June July August September October November December	6.9 11.5 9.4 9.6 9.2 8.3 8.3 6.4	33.0 30.3 34.4 38.5 33.7 39.7 32.6 28.4 25.2 31.2 25.5	51.6 42.9 45.2 51.3 45.3 66.7 45.2 63.3 48.4 43.3 41.9	9.7 10.7 16.1 29.0 16.1 23.3 19.4 16.1 10.0 9.7 13.3	67.0 69.7 65.6 61.5 66.3 60.3 67.4 71.6 72.0 74.8 68.8 74.5	22.6 16.9 22.2 23.0 19.3 22.0 19.0 17.1 16.3 15.5 17.5	5·4 3·9 7·1 6·7 6·7 4·5 4·5 3·5 5·6	2.8 4.7 2.9 4.1 5.0 7.3 4.9 2.9 1.0 3.9 4.7 3.2	1.8 2.4 2.2 3.3 3.6 3.4 2.9 2.6 4.7 2.0 3.0	0-4 2.0 0.0 0.7 0.4 0.3 1.3 1.0 0.7 0.3 1.0	0.0 0.4 0.0 0.7 0.0 0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.3 0.0 0.0	2. I 3.8 1.8 4.3 2.2 2. I 2.4 5. I 2.7 2.5 2.0	14 21 11 13 10 12 11 17 17 17 17	56 56 52 776 556	1 1889. 2 1885. 8 August, 1890. 4 March and April, 1887. 5 June, 1889.
Year	100.0	31.7	35.61	24.72	68.3	19.0	5.0	4.0	2·9 	0.7	0.09	0.02	5.18	234	125	
							[From		ORT SU 7, 1869, t	•		, inclus	ive.]			,
January February March April May June Jule September October November December	2.5 6.7 11.6 12.3 19.6 17.1 12.3 6.1 3.7 2.5	23.8 23.6 25.5 21.9 31.7 34.9 26.5 22.4 15.2 14.4 17.2	61.3 55.2 54.8 50.0 64.5 70.0 54.8 51.6 40.0 32.3 46.7 45.1	6.5 3.5 3.2 0.0 6.5 6.7 9.7 6.5 3.3 3.2 0.0	76. 2 76. 4 74. 5 78. 1 68. 3 65. 1 73. 5 77. 6 84. 1 85. 6 82. 8 81. 1	23. I 22. 6 22. 7 14. 6 23. I 22. 9 17. 8 14. 7 12. 3 11. 9 16. 4 17. 5	0.4 0.8 1.8 3.5 3.0 6.8 2.8 3.8 1.9 1.7 0.6	0.3 0.0 0.7 2.2 3.5 3.0 4.1 2.9 1.2 0.7 0.3	0.0 0.2 0.0 1.4 1.1 1.6 1.4 0.8 0.4 0.1	0.0 0.0 0.0 0.2 0.2 0.3 0.1 0.1 0.0 0.0	0.0 0.3 0.0 0.3 0.3 0.3 0.1 0.1 0.0 0.0	0.0 0.0 0.0 0.0 0.0 0.1 0.0 0.0 0.0	0.7 1.3 5.0 2.7 4.6 3.8 6.4 4.3 2.1 1.1	18 27 23 30 15 20 19 24 29 27 30 31	76 11 55 88 64 44 55	1 1874. ² 1889. ³ November and December, 1881. ⁴ March, 1890.
Year	100.0	28.1	35.61	11.82	76.9	18.3	2.4	1.6	0.6	0.1	0.1	0.01	6.4	508	114	

35.61

Year

100.0

11.82

76.9

18.3

114

6.4

FORT WINGATE, N. MEX.

							[From	January	, 1870, to	Decem	ber, 1891	inclus	ve.]			
	y dis- on of tation.	Percen whi	tage of c	iays on fell.		Perce			n of rain	nfall: without)	rain.		t rain	Grea conse No. of	cutive	Notes.
Month.	Monthly dis- tribution of precipitation.	Mean.	Max.	Min.	.00	T. to .25	.26 to	.51 to	1.01 to 2.00	2.01 to 3.00	3.01 to 5.00	Over 5.00	Heaviest in one c	With- out rain.	With rain,	
fanuary february farch April day une uly tugust eptember October November Uecember	Per ct. 7.5 10.9 6.8 6.1 3.4 4.8 17.0 15.6 9.5 6.8 4.8 6.8	14. I 17. 2 13. 3 12. I 8. 5 7. 7 26. 2 28. 0 15. 2 10. 0 9. 7 13. 3	38.7 28.6 25.8 30.6 23.3 35.5 54.9 40.0 22.6 23.3 25.8	0.0 0.0 0.0 0.0 0.0 0.0 12.9 6.4 3.3 0.0 0.0	85.9 82.8 86.7 87.9 91.5 92.3 73.8 72.0 84.8 90.0 90.3	9.5 12.6 10.3 8.5 7.0 4.8 18.3 19.2 9.7 6.0 6.9 8.7	2.9 2.2 1.3 2.1 1.0 1.7 4.3 4.8 3.0 2.2 2.1 3.4	1.2 1.3 1.4 0.3 0.8 2.5 3.4 1.5	0-4 0-6 0-4 0-2 0-0 0-5 1-0 0-5 0-2 0-3 0-3	0.0 0.2 0.0 0.2 0.0 0.2 0.0 0.2 0.0	0.0 0.3 0.0 0.0 0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	Inches. 2.0 4.5 1.2 1.3 2.1 1.5 2.5 1.4 3.5 2.4 1.3 1.8	31 28 31 30 31 30 21 20 27 31 30 25	56 54 3 47 57 34 5	¹ 1878. ² 1889. ³ February 18 to June 21, 1889. ⁴ July, 1874 and 1877; September, 1891; Marcand April, 1881.
ear	100.0	14.6	19.21	9·3²	85-4	10-1	2.6	1.4	0.4	0.1	0.04	0.0	4.5	1248	71	
							[Fro	·		STON, 7	Γ Ε Χ. ε τ, 1 8 91, i	nclusiv	e.]			
January February March April May June June July August September November December	5.8 6.0 5.8 7.9	43. 2 42. 3 34. 2 28. 5 23. 8 31. 9 33. 2 38. 6 39. 2 26. 4 33. 3 40. 2	67.7 64.3 51.6 53.3 41.9 66.7 58.1 64.5 66.7 67.7 60.0 61.3	22.6 21.4 9.7 6.5 13.3 12.9 22.6 10.0 6.5 6.7 12.9	56.8 57.7 65.8 71.5 76.2 68.1 66.8 61.4 60.8 73.6 66.7 59.8	30.8 32.8 24.1 20.2 12.2 21.4 22.4 24.3 22.4 17.0 18.6 27.7	3·5 3·7 3·98 3·4 2·7 5·4 4·4 2·3 4·5 3·7	4·4 2·7 3·5 1·7 3·5 3·1 4·6 2·6 5·4 3·5 3:6	3.7 2.7 2.1 2.5 3.4 2.5 2.0 4.3 2.5 2.3 3.3 2.9	0.6 0.0 0.6 1.0 0.8 1.4 0.3 0.9 1.9 0.9 1.0	0.2 0.4 0.0 0.3 0.3 1.2 0.0 0.6 1.3 0.8 0.2	0.0 0.0 0.0 0.0 0.2 0.2 0.5 0.5 0.5	3.6 3.8 2.9 3.3 5.4 2.9 5.5 7.9 5.6 4.5	14 11 21 17 26 19 18 13 13 22 13 15	12 10 6 6 5 9 13 6 9 7 10 7	1 1882. 2 1876. 3 October, 1871. 4 October and November, 1874. 5 July, 1882.
							CAI	 P e hat	'_ 'TERAS	AND H.	ATTERA	S, N. C.	۱ <u>-</u> ,	1	_	'
<u> </u>							From S	eptembe	er, 1874,	to Decer	nber, 189	ı, inclu	sive.]			
January February March April May June July August September October November December		47.6 40.8 41.0 38.4 34.9 40.0 41.6 47.8 33.3 32.3 36.7 38.0	61.3 78.6 61.3 56.7 67.7 53.3 80.6 61.3 63.3 45.2 63.3 58.1	38.7 21.4 19.4 16.7 19.4 26.7 22.6 38.7 13.3 19.4 3.3	52.4 59.2 59.0 61.6 65.1 60.0 58.4 52.2 66.7 67.6 63.3 62.0	25.6 24.8 21.1 23.9 21.6 24.1 22.8 26.2 17.0 17.0 21.3 20.8	8.92 5.6.57 6.77 7.4.5 5.22	7.8 6.5 7.6 4.5 5.7 4.1 7.0 9.8 4.8 4.1 6.3	4.4 3.5 4.7 2.4 2.1 3.7 4.2 3.0 4.3 2.5 4.3 3.6	0.6 0.6 0.2 1.0 0.9 1.2 1.1 1.7 2.0 0.9	0.4 0.2 0.8 1.0 0.6 0.2 0.8 0.2 0.7 1.1	0.0 0.2 0.0 0.0 0.0 0.0 0.2 0.7 0.4 0.0	4.0 3.2 6.7 4.8 4.0 3.9 4.2 9.2 5.9 4.2 4.2	7 10 10 11 15 11 14 10 21 21 17	8 10 9 7 12 7 9 11 10 7 8	11885. 21887. 31880. 4 September 26 to October 21, 1884. 5 January 27 to February 8, 1876.
Year	100.0	39-4	45.21	34.82	60.6	22.2	5-8	6.0	3.6	1.1	0.6	0• I	9.28	264	135	
							[Fron	n April,		ENA, MO Decembe	NT. e r, 1891, i	nclusiv	e.]			
January February March April May June June July August September Dectober November December	9·9 5·4 5·4 11·5 18·3 8·4 7·6 3·8 7·6	41.6 36.8 32.6 31.9 39.8 50.0 28.2 21.4 20.6 27.0 28.3 36.3	64.5 41.4 58.1 40.0 71.0 80.0 54.8 41.9 33.3 38.7 40.0 58.1	22.6 17.9 0.0 19.4 13.3 9.7 6.5 0.0 9.7 13.3 19.4	58-4 63.2 67-4 68.1 60.2 50.0 71.8 78.6 79-4 73.0 71.7 63.7	37.5 34.8 30.5 27.2 33.3 39.2 23.4 18.2 16.4 24.0 27.2 33.1	2.6 1.9 1.2 2.5 4.0 6.9 3.2 2.6 1.8 2.1 0.8 2.4	0.6 0.0 0.9 2.2 2.4 3.6 1.6 0.3 1.5 0.3 0.0	0.9 0.0 0.0 0.0 0.3 0.0 0.3 0.6 0.3 0.0	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.3 0.3	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	1.1 0.3 0.6 0.9 0.8 1.1 0.9 1.1 2.1 2.2 1.1 1.0	15 11 31 15 13 19 17 21 30 27 14 18	9 9 8 6 8 15 10 6 5 6 4 10 20 ⁵	¹ 1891. ² 1881. ³ 1891. ⁴ February 26 to April 5, 1881. ⁵ May 27 to June 15, 1891.
				<u> </u>	·	-		'	HURC	L. ON, S. D	AK.			1	-	· ·
			_	_			[From	n July,	1881, to 1	Decembe	r, 1891, i	nclusive -	a.]			
January February March April May June July August September Decomber Decomber	11.7 14.0 18.6 16.3	38.7 44.7 43.5 39.3 46.1 44.7 45.2 44.9 31.5 32.5 29.4 32.8	58. 0 72. 4 66. 4 50. 0 51. 6 70. 0 67. 7 58. 1 43. 3 546. 6 48. 4	16.0 18.0 25.8 20.0 27.0 30.0 29.0 22.6 16.6 19.3 10.7	61.3 55.3 56.5 60.7 53.9 55.3 54.8 55.1 68.5 70.6 67.2	38. I 43. 6 40. 6 29. 0 35. I 29. 0 32. 5 34. 0 26. I 28. 2 28. 5 30. 2	0.3 0.7 2.3 5.7 3.9 6.3 4.3 5.0 1.8 0.3 2.3	0.3 0.4 0.6 2.3 5.2 5.0 5.0 3.5 1.8 0.3	0.0 0.0 2.3 1.9 3.7 3.2 2.4 0.9 0.7 0.3	0.0 0.0 0.0 0.0 0.0 0.7 0.2 0.0 0.0	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0.52 0.7 0.8 1.8 1.7 2.1 2.1 1.5 1.5 1.8	12 16 14 16 11 11 10 12 12 18 18 18	12 10 6 6 10 8 8 11 5 6	11891. 21885. 3January and February, 1882; October an November, 1887. 4January, 1886.
Year	_	39-4	49·3 ¹	33.12	60.6	32.9	2.9	2.2	1.3	0.1	0.0	0.0	2.1	308	124	· I

INDIANAPOLIS, IND.

	dis- of tion.	Percen	tage of c	lays on		Pone	Clas entage of		n of rair		rain		rain y.	conse	test cutive	
Month.	Monthly dis- tribution of precipitation.					T. to	. 26 to	.51 to	1.01 to	2.01 to	3. 01 to	Over	eaviest rain in one day.	With-	days— With	Notes.
·	S.F.F	Mean.	Max.	Min.	.00	.25	. 50	1.00	2.00	3.00	5.00	5.00	He	out rain.	rain.	
anuary ebruary Iarch pril	Per ct. 7.1 7.9 8.8 7.9 9.2	49.8 49.6 50.1 45.7 44.7	71.0 75.0 71.0 66.7 64.5	29.0 14.3 29.0 30.0 22.6	50. 2 50. 4 49. 9 54. 3 55. 3	38-4 35-6 35-2 31-4 28-9	5.0 5.7 6.5 6.5 7.4	4.8 6.0 6.0 5.7 5.5	1.5 1.4 2.0 1.8 2.1	0.0 0.7 0.1 0.3 0.8	0. I 0. 2 0. 0 0. 0	0.0 0.0 0.0 0.0	Inches. 3.8 3.0 2.3 2.2 2.7	15 20 12 11 15	13 10 11 8 8	11890. 21879. 8September, 1891. 4June, 1590.
une	11.3 10.4 8.3 6.2 6.9 8.6	48.4 38.2 37.3 32.9 36.7 46.5 50.7	73·3 64·5 58·1 63·3 71·0 63·3 74·2	30.0 16.1 16.1 10.0 16.1 30.0 32.3	51.6 61.8 62.7 67.1 63.3 53.5 49.3	29.4 22.7 25.0 22.2 23.5 32.1 38.7	7.9 5.7 4.8 4.0 6.5 6.5	7·2 5·5 3·9 4·6 5·1 4·3	3.3 3.2 3.0 2.2 2.1 2.4 1.8	0.6 0.8 0.6 0.5 0.0	0.0 0.3 0.0 0.0 0.0	0.0 0.0 0.0 0.0 0.0	2.9 3.7 2.9 2.6 1.9 4.3 3.5	10 13 14 23 14 13	14 7 11 10 9 9	-
/ear	100-0	44.2	55. 11	35·3 ⁹	55.8	30.3	6.0	5.2	2.2	0.4	0.1	0.0	4.3	238	144	·
		<u></u>				<u> </u>	1	 Ј	' ACKSON	VILLE,	FLA.	,	-	٠ -	1	· · · · · · · · · · · · · · · ·
•	•						[From				ber, 1891	inclusi	ive.]			
January February March April May Une Inly August Jeptember October November	5.6 5.3 6.5 5.3 7.6 11.1 11.2 12.1 14.7	40. 2 45. 3 37. 1 33. 0 50. 5 53. 9 53. 4 57. 0 43. 5 43. 7	83.9 79.3 80.6 60.c 77.4 70.0 87.1 80.6 96.7 80.6 93.3 87.1	12.9 14.3 12.9 13.3 16.1 20.0 6.5 19.4 23.3 9.7	59.8 54.7 62.9 67.0 61.0 49.5 46.6 43.0 56.3 56.3	27.9 34.0 24.8 22.0 24.3 31.0 31.5 33.7 34.2 29.5	4·5 4·8 4·5 5·0 5·6 8·7 6·6 8·3 7·7	4·5 3·9 5·4 2·9 5·3 7·6 8·8 8·8 3·8	2.99 1.99 2.51 3.58 5.8 5.8 2.92 1.8	0.2 0.5 0.5 0.3 1.1 1.0 1.0 0.8 2.0 1.8	0.2 0.2 0.0 0.3 0.0 0.2 0.3 0.8 1.0 0.9	0.0 0.0 0.0 0.0 0.2 0.0 0.2 0.2	3. I 3. 2 2. 3 3. 2 2. 7 5. I 3. 5 4. 4 6. 2 5. I 3. 6	18 12 15 12 16 14 13 9 8 16 20	13 11 10 7 7 13 12 10 19 14	1,1885. 2 December, 1871, and January, 1872. 2 September and October, 1884.
rear	5-4 100-0	39.6 44.7	71.9	6.5 26.0	55.3	30.0 29.8	3· I 5· 3	3.8 5.1	3.2	0.8	0.2	0.05	3·3 6.21	23 34 ²	15 32 ³	
							L		111D17	rer, fl	<u> </u>		<u>!</u>	<u></u>	l	
							(From a	anuary,		-	ber, 1892	, inclus	sive.]			
anuary February darch Lyril Asy une uly ugust Leptember Lotober November Locomber	7.2 5.3 3.0 4.6 14.1 9.7 10.8 11.1 15.5 9.2 6.0 3.5	32.3 38.0 25.2 28.0 36.1 49.3 40.0 47.1 67.3 32.9 33.3 35.5	45.0 46.4 32.3 40.0 51.6 90.0 54.8 58.1 90.0 54.8 40.0 54.8	22.6 31.0 16.1 20.0 16.1 16.7 19.4 35.5 46.7 12.9 26.7 12.9	67.7 62.0 74.8 72.0 63.9 50.7 60.0 52.9 32.7 67.1 66.7 64.5	21.9 24.6 17.4 18.7 16.1 27.3 21.9 25.8 36.0 16.8 22.7 28.4	3.9 5.6 3.9 5.3 5.3 9.0 3.0 5.3 6.0 5.2	3·9 5·6 2·7 3·2 9·3 6·4 13·3 5·8 1·3 0.5	1.3 2.1 0.7 5.2 6.0 1.3 8.0 3.9 7 0.6	0.6 0.0 0.6 0.7 1.9 1.3 1.3 1.3 1.9 0.6	0.6 0.0 0.0 0.0 0.6 0.0 0.0 0.7 1.3 0.0	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	4.3 1.8 2.8 2.3 4.2 3.0 2.2 2.2 2.8 4.2 2.7 2.9	13 9 12 14 26 15 16 9 8 19 10 11	5 7 4 9 7 19 10 9 17 8 4 6	¹ 1891. ² 1889. ³ January, 1889. ⁴ April to May, 1889. ⁵ June, 1892.
							<u>'</u>		KEOK	UK, IO	WA.		'		<u>'</u>	
							[From	August	1871, to	Decem	ber 1891,	inclusi	ve.]			
fanuary February March April May June June June June June June June June	4.8 6.0 8.3 11.4 14.0 12.0 8.8 10.0 8.8	35·3 36·8 41·3 39·7 40·5 43·6 29·8 31·3 30·1 29·8 34·4	61.0 64.3 67.7 60.0 58.1 63.3 48.4 45.0 63.3 54.8 46.6 54.7	13.0 7.1 19.0 16.6 19.3 16.6 9.7 6.5 3.3 12.9 13.3 6.4	64.7 63.2 56.3 59.5 57.4 768.7 69.9 65.6	29. 5 30. 3 33. 2 27. 0 24. 7 25. 7 18. 5 20. 0 19. 4 18. 5 20. 8 27. 3	2.77 4.27 7.54 7.55 7.55 8.49 9.49 9.49 9.49	2.48 2.99 3.73 6.37 4.74 4.6 3.0	0.7 0.8 1.0 1.2 2.4 2.3 2.3 1.5 1.9 2.3 1.1	0.0 0.0 0.3 0.7 1.4 1.1 0.9 0.5 0.2 0.0	0.0 0.2 0.0 0.0 0.0 0.5 0.2 0.5 0.0	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	2.0 3.6 2.4 2.6 3.0 4.3 3.7 4.8 2.2 1.8	14 15 13 14 15 16 15 19 16 15 22 16	78 76 6 77 86 76 8	11878. 21873. 3 October and November, 1879. 4 July and August, 1882.
Year	100.0	35-4	43.31	25.22	64.6	24.5	4.9	3.8		0.5	0.1		4.8	20.	11.	
						į	From N	ovembe		VEST, F to Dece	LA. mber, 18	or, inclu	asive.]			
anuary	5.2	37.0	67.7	9.8	63.1	30-4	2.6	2.6	0.9	0.4	0.0	0.0	2.7	22	11	11887.
February March April May June July August September October	4·4 3·0 3·2 8·2	35. I 21. 8 21. 6 32. 5 42. I 48. 4 52. 7 60. 3 43. 9	71.4 48.4 63.3 61.3 66.7 64.5 77.4 80.0	10.7 3.2 3.3 12.9 10.0 29.0 29.0 36.7 19.4	64.9 78.1 78.5 67.4 57.6 47.3 39.7 56.8	29.7 17.5 17.5 17.7 22.2 28.1 34.1 35.3 34.8 28.3	2.4 2.0 1.1 4.5 5.5 6.1 6.5 9.0 6.6	2.0 1.47 2.98 4.8 5.2 7.1 9.1 3.8	0.5 0.8 0.6 2.0 2.4 2.0 2.6 5.9	0.5 0.2 0.2 0.5 1.1 0.8 0.9 1.4 1.1	0.0 0.0 0.2 0.5 0.2 0.3 0.4	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	2.9 2.3 3.2 4.8 3.6 4.0 3.8 5.8 8.2	16 25 26 14 24 10 11 9	10 8 7 8 14 8 13 16 12	2:871. 3 March and April, 1871. 4 September and October, 1884.

KNOXVILLE, TENN.

	•						[From			ILLE, T	ENN. iber, 1891	. inclus	sive.1			,
—	q dis- on of tation.	Percen Whi	tage of d	ays on fell.		Perce		rificatio	on of rais	ofall:		_			test cutive days—	Notes,
Month.	Monthly dis- tribution of precipitation.	Mean.	Max.	Min.	.00	T. to	.26 to	.51 to	1.01 to 2.00	2.01 to 3.00	3.01 to 5.00	Over 5-00	Heaviest rain in one day.	With- out rain.	With rain.	
anuary ebruary arch pril ay aly ugust sptember ctober ovember	10.0 10.9 9.6 7.3 8.3 8.1 5.8 7.5 7.7	50.7 49.1 48.3 46.0 44.7 48.3 44.4 44.9 31.4 30.4 37.6 44.0	80.6 71.4 80.6 76.7 64.5 70.0 67.7 64.5 53.3 54.8 56.7 64.5	20.6 28.6 32.3 26.7 29.0 20.0 22.6 29.0 10.0 12.9 10.0	49·3 50·9 51·7 54·0 55·3 51·7 55·5 68·4 69·6 62·4 56·0	30.0 28.8 27.7 27.9 29.8 31.0 27.5 29.5 20.5 18.6 22.4 27.8	7. I 8. I 8. 8 6. 8 6. 6 7. 5 8. 3 5. 8 5. 5 6. 3	8.9 6.9 7.2 7.3 6.1 7.6 4.5 5.8 4.0 3.1 4.9	4.1 3.9 3.4 2.9 1.7 2.2 3.8 1.4 3.2 3.7	0.6 1.2 1.2 0.8 0.5 0.0 0.2 0.9 0.7 0.0	0.0 0.2 0.3 0.0 0.0 0.2 0.0 0.2	0.0 0.0 0.2 0.0 0.0 0.0 0.0 0.0 0.0	Inches. 3.0 4.4 5.6 3.3 2.2 1.9 3.1 2.6 3.2 1.8 2.6 2.1	14 9 15 11 11 13 11 16 21 16	18 7 11 9 7 10 9 8 9 7 7	¹ 1882 and 1891. ² 1879. ³ September and October, 1881. ⁴ January, 1882.
ear	100.0	43-4	49.61	34.22	56.6	26.8	6.9	6.0	3.0	0.6	0.1	0.02	5.6	258	184	
						Į:	From N	ovembe:		OSSE, W	'18. nber, 189	ı, inclu	Bi ve .]			
anuary ebruary arch pril (ay une uly ugust eptember ctober ovember ecember	3.5 5.4 6.3 9.8 14.1 13.9 11.4 14.1 7.6	45. 2 40. I 38. 9 41. 4 42. 6 47. 4 43. 3 38. 0 45. I 36. 8 38. 5 43. I	83.9 82.8 58.1 66.7 74.2 70.0 71.0 67.7 90.0 61.3 70.0	22.6 14-3 16.1 20.0 19-4 33-3 19-4 22.6 16.7 19-4 13.3 16.1	54.8 59.9 61.1 58.6 57.4 52.6 56.7 62.0 54.9 63.2 61.5 56.9	40.6 35.3 33.6 31.6 30.0 29.7 29.2 26.1 28.0 27.5 32.2 38.1	2.8 3.96 6.3 5.98 6.3 4.1 6.3 3.5 3.5	1.8 0.9 2.0 3.0 5.1 4.9 4.7 6.7 3.9 2.0	0.0 0.5 0.5 1.4 3.3 1.7 2.2 3.7 1.5 0.8	0.0 0.2 0.2 0.7 0.8 0.9 0.2 0.0 0.0	0.0 0.0 0.0 0.0 0.0 0.0 0.5 0.0 0.0	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	1.0 0.8 2.0 1.1 2.1 2.3 3.9 2.8 1.3 1.7	11 12 14 13 12 12 14 14 12 13 14 16	9 12 8 9 8 14 10 8 10 8	¹ 1888. ² 1873. ³ March, 1874. ⁴ December, 1887, and January, 1888.
ear	100-0	41-7	66.71	27.42	58.3	31.8	4.8	3.4	1.4	0.2	0.04	0.02	5.6	25 3	194	
						•	[From			VORTH,	KANS. er, 1891, i	nclusiv	e.]			•
anuary ebruary farch pril ay une une ugust eptember ctober ovember ecember	3.9 5.7 8.9 14.1 13.5 11.5 9.1 9.1 5.7 3.9	30.8 33.3 32.9 40.3 43.7 40.6 29.6 30.2 27.4 26.5 21.5	61·3 67·9 54·9 66·7 61·3 60·0 45·2 51·6 56·7 58·1 40·0 61·3	3.2 10.7 16.1 20.0 29.0 26.7 6.5 9.7 10.0 13.0 3.3 9.7	69. 2 66. 7 67. 1 59. 7 56. 3 59. 4 70. 4 69. 8 73. 5 78. 5 78. 5 73. 6	25.8 27.4 23.4 25.5 21.6 15.2 18.0 15.5 15.4 14.2 21.1	2.6 3.2 5.3 7.8 6.7 5.4 4.7 5.1 2.7 2.8	1.6 1.8 2.9 4.2 6.1 6.7 5.3 3.2 3.5 3.1 2.7	0.8 0.9 1.0 2.5 3.9 4.7 2.8 3.2 2.6 1.4 1.2	0.0 0.3 0.3 0.3 0.3 0.3 0.6 0.2 0.5 0.0	0.0 0.0 0.0 0.0 0.2 0.6 0.3 0.0 0.2 0.0	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	1.7 1.7 2.2 2.5 3.6 3.6 3.7 3.1 2.6 1.7	16 16 14 12 12 12 14 28 25 17 15 20 23	6 8 7 8 8 7 5 7 10 5 6 11 114	11884. 21873. 3 November and December, 1890. 4 December, 1884.
-		1	!				'== =='	I	'. .ittle	ROCK,	ARK.		_	' · '	!	· · · · · · · · · · · · · ·
	,	i ;			;		[Fron	n July,	1879, to 1	_	r, 1891, i	nclusive 				
anuary ebruary larch pril lay	9.2 9.0 9.8 8.0 7.1 7.3 5.9 4.5 10.3 8.0	44·4 39·3 41·3 39·2 40·3 42·8 37·7 33·7 29·7 29·7 28·0 37·5 39·9	58. I 60. 7 54. 8 46. 7 61. 3 50. 0 54. 8 48. 4 56. 7 48. 4 70. 0 71. 0	25.8 24.1 32.3 26.7 16.1 26.7 22.6 12.9 3.3 16.1 20.0	55.6 60.7 58.7 60.8 59.7 57.2 62.3 66.3 70.3 72.0 62.5 60.1	26.6 20.6 23.7 21.9 21.5 25.3 24.6 21.3 18.7 19.9 19.0 27.8	5.9 5.3 5.6 6.4 8.6 7.2 4.0 5.2 3.3 2.5 5.4 4.5	5.9 7.8 7.8 5.9 7.7 4.4 3.6 3.0	5. I 3.6 4.3 4.2 3.2 3.0 1.5 2.8 1.7 4.9 3.7	0.8 1.1 0.5 0.0 0.6 0.0 0.5 0.5 0.5 0.3	0.0 0.3 0.3 0.3 0.3 0.5 1.0 0.0 0.3	0.0 0.0 0.0 0.3 0.0 0.0 0.0 0.0	2.8 3.3 2.2 3.4 6.3 3.7 4.1 2.8 2.1 4.6	12 10 13 11 19 13 13 15 18 14 22 13	6 7 10 11 7 7 9 5 13	1 1886. 2 1881. 3 October and November, 1887. 4 November, 1886.
ear	100.0	37-8	42.91	31.02	62.2	22.6	5-3	5·7 	3.4	0.6	0.3	0.02	6.3	268	13 ⁴ ·	
							[Fron			GELES, Decembe	CAL. r, 1891, i	nclusive	o.]			
uary ruary reh il y y tember ober	22. 2 12. 2 7. 2 1. 7 0. 6 0. 3 0. 6	20.0 27.6 27.4 22.4 13.4 6.7 3.4 3.1	41.9 53.6 67.7 36.7 35.6 26.7 12.9 16.1 16.7	3.2 3.6 9.7 6.7 0.0 0.0 0.0	80.0 72.4 72.6 77.6 86.6 93.3 96.6 97.0 96.9	11.8 15.2 18.7 15.7 12.4 6.2 3.4 2.8 3.1	2. I 4. 3 3. 0 2. 6 0. 7 0. 0 0. 0 0. 0	2. 5 3.8 3.5 2.9 0.0 0.5 0.0 0.2 0.0	2.8 3.0 1.6 1.2 0.2 0.0 0.0	0.7 1.3 0.7 0.0 0.0 0.0 0.0	0.2 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0 0.0 0.0 0.0	4.7 2.8 2.7 2.0 1.5 0.6 0.2 0.2 0.2	26 25 18 17 31 30 31 31	7 7 9 5 5 3 2 2	1 1890. **SJuly 1 to October 28, 1877. **March, 1884.

Table V. -Details of precipitation.

LOUISVILLE, KY,

							[From	March,		VILLE. Decembe		clusive	o.]	•		•
Manah	Monthly dis- tribution of precipitation.	Percen wh	itage of e	lays on fell.		Pero	Clas	sification	on of rai		-				itest cutive days—	
Month.	Month! tribut precip	Mean.	Max.	Min.	.00	T. to	.26 to .50	.51 to	1.01 to 2.00	2. 01 to 3. 00	3.01 to 5.00	Over 5.00	Heaviest rail in one day.	With- out rain.	With rain.	Notes,
January February March May June	7.9 9.2	51.1 47.9 49.2 44.5 42.3 46.0	80.6 67.9 71.0 63.3 58.1 70.0	32.3 17.9 29.0 20.0 19.4 26.7	48.9 52.1 50.8 55.5 57.7 54.0	36. 2 29. 7 31. 1 29. 2 28. 7 27. 0	5.9 8.0 8.4 6.8 6.5 9.8	5.4 5.6 6.8 5.0 4.2 6.0	2.7 3.9 2.9 2.7 2.1	0.7 0.7 0.0 0.5 0.6 0.5	0.2 0.0 0.0 0.3 0.2 0.0	0.0 0.0 0.0 0.0	Inches. 3.4 3.0 2.0 3.6 3.5 2.8	11 7 12 11 15	10 11 7 8 8	¹ 1886. ² 1875. [*] 1876. ⁴ September, 1891. ⁵ June, 1889.
ulyeptember ctober lovember locember	8.2 8.2 6.2 6.4 9.0	37.6 34.0 31.7 31.6 41.2	61.3 61.3 56.7 51.6 63.3 74.1	16.1 19.4 13.3 16.1 16.7 25.8	62.4 66.0 68.3 68.4 58.8 52.9	23.7 20.4 20.0 19.4 26.0 34.7	6.1 5.3 5.3 6.6 5.0 4.5	4·4 5·6 3·8 3·7 6·5 4·7	2.9 1.8 2.2 1.5 3.0 2.6	0.3 0.0 0.3 0.3 0.7 0.5	0.2 0.3 0.0 0.2 0.0	0.0 0.0 0.0 0.0 0.0	3.4 3.8 2.3 4.1 2.6 3.9	12 14 17 13 15	13 6 9 7 4 10 9	
Tear	100.0	42.0	49.01	32.32	58.0	27.2	6.5	5.1	2.6	0.5	0.1	0.0	4.18	174	135	
							[Fro:	m June,		IBURG, Decembe		clusive	.]			
anuary	9.7	41.9	74.2	29.0	58. 1	25. I	9.2	5.5	1.8	0.3	0.0	0.0	2.2	¦ 10	10	11889.
february farch pril fay une uly ugust eptember	8.1 9.0 7.4 8.6 8.1 8.6 9.3	40.9 41.6 42.3 43.1 46.0 44.2 46.1 34.0	64.3 64.5 56.7 71.0 73.3 71.0 80.6 60.0	10.7 19.4 23.3 19.4 13.3 19.4 16.1 6.7	59·1 58·4 57·7 56·9 54·0 55·8 53·9 66·0	24.6 26.6 28.4 26.5 31.5 31.3 31.2 21.3	6.7 6.8 7.0 9.0 6.5 5.0 5.9 4.3	7·3 4·7 4·7 5·5 5·9 4·6 5·5 4·5	2. I 3. 2 2. 0 I. 6 I. 6 2. 9 3. 2 3. 0	0.2 0.3 0.2 0.5 0.5 0.2 0.3 0.6	0.0 0.0 0.0 0.0 0.0 0.2 0.0	0.0 0.0 0.0 0.0 0.0 0.0	2.2 2.1 2.2 2.2 2.8 3.2 2.8 3.4	17 11 10 12 11 10 17	10 7 6 13 10 9	² 1878. ³ 1877. ⁴ August and September, 1881. ⁵ August, 1891.
October November December	7.0 8.4	31.0 36.0 36.3	64.5 76.7 54.8	12.9 23.3 19.4	69.0 64.0 63.7	19.9 24.2 25.0	4·1 5·0 4·3	4·5 4·3 4·5	1.7 2.1 2.2	0.6 0.2 0.3	0. 2 0. 2 0. 0	0.0 0.0	4·7 4·2 3·0	15 13 17	8 13 8	
Cear	100.0	40.3	55.91	31.82	59.7	26. 2	6.2	5. 1	2.3	0.4	0.1	0.0	4·78	184	176	·
			4				[From	n June,		Decembe		nclusiv	e.]	•		- -
lanuary February March April May une fuly August Detober November Decomber	7.8 8.0 9.4 9.9 10.6 9.4 7.3 7.3	34.2 34.0 35.7 30.2 33.4 33.3 31.0 26.3 23.5 26.5 36.1	58. 1 75. 0 54. 8 53. 3 54. 8 56. 7 51. 6 45. 2 43. 3 51. 6 63. 3 45. 2	9.7 0.0 6.5 3.3 6.5 6.7 9.7 3.2 3.3 6.5	65.8 66.0 64.3 69.8 66.6 66.7 69.0 73.7 70.5 73.5 63.9 68.6	17.1 17.7 18.6 19.9 18.1 16.8 13.1 12.6 15.1 21.1	9·3 9·4 10·2 6·3 7·0 5·6 6·3 4·8 8·0 6·3	6.3 4.4 5.3 3.9 4.2 6.5 4.1 4.1 3.98 6.1	1.3 2.5 1.5 1.8 1.5 1.7 3.6 2.0 1.5 0.5 0.9	0.2 0.0 0.0 0.2 0.6 0.0 0.7 0.5 0.4	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.2 0.4 0.0	0.0 0.0 0.0 0.0 0.0 0.0 0.2 0.2 0.0 0.0	2.2 1.5 1.8 2.2 2.2 1.6 5.4 5.2 4.6 2.2	21 28 17 28 19 24 26 22 26 26 14	7 11 6 7 6 8 8 5 5 8 8	11890. 21884. 3 April and May, 1884. 4 February, 1887.
Year	100.0	31.3	47·7¹	10.72	68.7	17.1	7.2	4.9	1.7	. 0.3	0.05	0.03	5.4	418	114	
-							[Fro		•	ETTE, M		clusive	·]	' -		
January February March April May July August September Detober	6.8 9.2 8.3 9.9 8.9 9.2 8.6	55.5 51.5 47.6 42.7 43.5 45.2 43.7 43.3 48.3 52.7 58.1	83.9 78.6 80.6 63.3 67.7 70.0 61.3 64.5 83.3 74.2 80.0	12.9 10.7 29.0 23.3 16.1 26.7 19.4 25.8 23.3 22.6 33.3	44·5 48·5 52·4 57·3 56·5 54·8 56·3 56·7 51·7 47·3 41·9	50.0 44.8 42.8 34.7 33.2 30.6 31.9 32.8 32.4 40.1 47.1	3.4 3.7 2.4 4.0 6.1 7.0 6.0 4.6 7.4 6.4 7.3	1.6 2.3 1.9 3.0 2.7 5.2 3.7 3.8 5.9 4.6	0.5 0.7 0.5 1.0 1.5 1.9 1.7 1.5 2.1	0.0 0.0 0.0 0.0 0.3 0.2 0.6 0.3	0.0 0.0 0.0 0.0 0.0 0.0 0.2 0.2 0.0	0.0 0.0 0.0 0.0 0.0 0.2 0.0 0.0	1.2 1.4 1.4 1.3 1.6 5.2 4.1 2.8 4.4	19 19 9 21 14 10 11 9 12 14	11 14 8 7 11 12 9 6 8	¹ 1834. ² 1877. ³ April, 1877. ⁴ December, 1885, and January, 1886; February, 1886; September and October, 1887.
December Year	•	56.5 49.0	83.9 59.81	25.8 24.92	43•5 51·0	39.0	5·7 5·3	3.4	0.6	0.0	0.03	0.0	1.6	218	10	
	100.0	49.0	39.0			39.0	3.3	3.4	l	HIS, TE			3.2	1		
							[Fron	n March	, 1871, to	Decemb	er, 1891, i	nclusiv	e.]			
January February March April May June July August September October November	11.0 10.7 10.7 7.0 9.3 5.9 7.0	47.6 45.8 45.6 41.4 40.9 43.8 38.9 32.6 30.2 28.6 40.5	74.2 69.0 64.5 56.7 . 61.3 . 63.3 63.5 58.1 63.3 48.4 63.3	22.6 17.2 25.8 23.3 25.8 20.0 16.1 3.2 6.5 20.0	52.4 54.2 54.4 58.6 59.1 67.4 69.8 71.4 59.5	28.4 24.3 26.5 24.2 26.1 28.7 26.1 20.6 18.9 18.3 23.9	7·3 8.8 6·4 6·0 5·8 4·0 7·1 5·3 4·3 3·5	6.9 7.1 6.7 5.2 7.0 3.4 3.4 3.5 4.6	3.4 4.4 4.5 4.4 2.8 2.8 1.7 2.2 3.2 2.8 4.9	1.1 0.9 1.1 1.1 0.8 0.6 0.3 0.8	0.5 0.3 0.4 0.5 0.2 0.5 0.3 0.3 0.2	0.0 0.0 0.0 0.0 0.0 0.2 0.0 0.0 0.0	4.0 3.2 3.8 4.0 3.2 8.9 3.7 3.8 3.0 3.2	10 8 11 14 19 16 17 27 17 15	10 12 6 7 11 10 12 9 6	11882. \$1872. *June, 1877. *August, 1872. *August, 1876; February, 1884.

Table V.—Details of precipitation—Continued.

MILWAUKEE, WIS.

							[From	Novemb	er, 1870,	to Decer	nber, 189	, inclus	ive.]			. •
Month.	Monthly distribution of precipitation.	Percen whi	tage of c	lays on fell.		Perce	Classentage of	sificatio days w	n of rain	fall: without	rain.		est rain ne day.	Great consect No. of	cutive	Notes.
	Month tribut precip	Mean.	Max.	Min.	.00	T. to .25	.26 to	.51 to	1.01 to 2.00	2.01 to 3.00	3.01 to 5.00	Over 5-00	Heavies in one	With- out rain.	With rain.	
January February March April May June July August	Per ct. 6.9 5.9 8.4 9.9 12.1 10.2 9.0	49.9 45.7 45.6 42.7 45.5 48.6 43.2 39.0	80.6 79.3 64.5 56.7 67.7 66.7 77.4 71.0	25.8 10.7 19.4 26.7 19.4 33.3 19.4	50. I 54. 3 54. 4 57. 3 54. 5 51. 4 56. 8 61. 0	41.8 37.8 34.5 32.9 31.5 32.2 31.8 27.7	4·5 4·4 6·0 4·4 7·1 7·3 4·1 4·6	2.6 2.9 4.8 2.7 4.9 5.8 4.9	0.8 0.6 0.3 2.5 1.8 2.7 2.2	0.2 0.0 0.0 0.2 0.2 0.5 0.3	0.0 0.0 0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0 0.0 0.0	Inches. 2.5 1.8 1.8 2.9 2.7 2.5 3.0 2.7	11 21 11 13 16 11 12	11 11 9 7 9 9	¹ February, 1877. ² December, 1877.
September October November December	8.7 7.8 6.5 6.2	43.5 40.6 43.2 49.0	70.0 67.7 70.0 74.2	23.3 12.9 13.3 22.6	56.5 59.4 56.8 51.0	32.1 29.8 34.1 41.7	5·2 5·9 4·9 4·0	4.0 3.5 3.6 2.6	1.8 1.4 0.6 0.7	0. 2 0. 0 0. 0 0. 0	0.2 0.0 0.0 0.0	0·0 0·0	3.7 1.6 1.8 1.4	11 15 15 12	8 10 10 14	
Year	100.0	44.7	56.6	29.9	55.3	34.0	5.2	3.9	1.4	0.2	0.02	0.0	3.7	211	142	
					,	•	f Wros	n Ionuo		ILE, AL	A. nber, 189	r inclus	ive 1	•		-
7						-00		1	1	1	1		1			1.00-
January February March April May June July August September October November	7·9 7·58 7·9 7·2 9·7 10·5 8·1 4·9 7·0 7·2	46. I 42. 3 41. 0 35. 2 31. 0 45. 4 54. 5 49. 4 37. 4 25. I 32. 0 41. 9	71.0 78.6 70.9 43.3 54.8 76.7 77.4 80.6 73.3 67.7 46.7 61.3	16. 1 21. 4 22. 6 16. 7 9. 7 23. 3 25. 8 10. 0 0. 0 10. 0	53.9 57.7 59.0 64.8 69.0 54.6 45.5 50.6 62.6 74.9 68.0 58.1	28.8 26.4 22.0 21.1 19.3 26.8 34.8 30.1 23.5 16.2 18.1 25.2	5.6 5.78 4.3 4.4 7.5 5.4 5.3 7.3 7.3	6.57 6.1 3.1 6.1 7.7 3.2 4.5 5.2	4.1 4.5 5.2 4.6 3.2 4.3 4.3 4.1 2.6 2.5 3.1	0.7 C.6 2.0 1.7 0.2 0.4 1.0 1.1 0.7 0.6 0.4	0.4 0.9 0.0 0.4 0.6 0.4 1.1 0.9 0.4	0.0 0.0 0.2 0.2 0.2 0.2 0.2 0.2 0.2	3.92 4.1 7.56.2 7.66.2 6.2 6.2 6.2 4.5	14 9 13 18 15 18 12 15 31 17	10 12 9 5 10 9 18 12 9 6 8	11885. 21876. September, October, and November, 1874. 4July, 1879.
Year	100.0	40.1	51.51	29.32	59-9	24.3	5-4-	5. I	3.8	0.9	0.5	0.1	7.3	43 ⁸	184	
							[Fron			OMERY, so Decen	ALA. aber, 1891	, inclus	ive.]			,
January February March April May June July August September October November December	9.3 10.49 9.66 7.92 7.92 7.89 6.81	41.1 36.9 36.2 30.0 30.9 41.6 36.3 37.2 27.5 20.0 28.2 35.8	58. 1 54. 3 51. 6 50. 0 51. 6 63. 3 67. 7 54. 8 53. 3 54. 8	19.4 17.9 9.7 13.3 9.7 20.0 9.7 6.7 3.2 13.3 9.7	58.9 63.1 63.8 70.0 69.1 55.4 63.7 62.8 72.5 80.0 71.8 64.2	23.8 17.2 16.1 13.6 17.2 24.6 20.7 22.2 17.1 13.0 14.8 20.0	6.2 5.7 7.9 5.1 7.0 5.8 4.4 2.4 4.3	6.2 6.8 5.6 6.6 5.5 4.7 5.1 2.8 1.8 5.6	4.4 6.38 3.5 3.5 2.6 2.3 2.1 2.3	0.5 0.9 0.3 0.5 0.5 0.5 0.5 0.5	0.0 0.6 0.5 0.5 0.2 0.0 0.4 0.2	0.0 0.0 0.2 0.0 0.0 0.0 0.0 0.0	2.6 3.0 4.7 6.0 3.5 3.4 3.7 3.3 3.5 3.0	9 13 22 13 25 13 17 13 25 25 25 14	11 7 10 6 6 10 10 7 13 5 7	¹ 1890. ² 1886. ³ September and October, 1884. ⁴ September, 1890.
Year	100.0	33.5	41.91	27.42	66.5	18-4	5.6	5.2	3.3	0.7	0.3	0.02	6.0	468	134	
				•			[From J			EAD, M Decem	INN. ber, 1891	, inclus	si v e.]			
January February March April May June July August September October November December	3.7 3.3 8.2 10.2 16.7 17.0 11.4 10.2 9.0 3.7 3.3	39.6 43.5 39.0 38.8 38.1 42.1 44.6 35.8 33.9 36.1 38.8 39.9	58. I 67. 9 54. 8 53. 3 54. 8 60. 0 51. 6 55. 6 51. 6 53. 3 54. 8	22. 2 17. 8 29. 0 20. 0 22. 5 26. 6 25. 8 19. 4 16. 6 25. 8 13. 3 22. 2	60.4 56.5 61.0 61.2 61.9 57.9 55.4 64.2 66.1 63.9 61.2 60.1	37.8 40.6 36.0 30.9 29.0 26.0 29.1 25.5 25.8 28.8 34.5 38.7 31.9	1.5 2.6 1.8 5.8 5.9 5.96 3.3 2.9 3.4 0.6	0.3 0.3 1.2 1.8 3.5 5.8 6.3 3.0 0.6 0.6	0.0 0.0 0.9 1.8 3.3 3.0 0.9 1.2 1.2 0.3	0.0 0.0 0.0 0.0 0.6 0.3 0.3 0.0 0.0	0.0 0.0 0.0 0.0 0.0 0.0 0.3 0.0 0.3 0.0 0.0	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0.5 0.7 0.7 1.9 1.6 2.6 4.5 2.5 3.8 2.4 0.7	13 10 9 11 13 13 18 18 13 21 21	7 9 5 7 7 7 7 7 7 7 7 8	
			'		- —				NASHVI	LLE, T	ENN.			<u></u>		
			, —			[From D	ecembe	r, 1870, t	o Decen	nber, 189	r, inclu	sive.	ı- 		· · · · · · · · · · · · · · · · · · ·
January February March April May June July August September October November	5-3	49-3 47-9 48-1 44-8 40-9 48-7 40-9 35-8 32-1 28-7 41-4 45-8	80.6 71.4 71.0 66.7 64.5 70.0 58.1 61.3 63.3 67.7 63.3 67.7	16. I 17-2 29. 0 20. 0 19. 4 20. 0 19. 4 12. 9 13. 3 12. 9 23. 3 19. 4	50.7 52.1 51.9 55.2 59.1 51.3 59.1 64.2 67.9 71.3 58.6 54.2	29.9 26.8 28.7 28.1 27.2 31.7 26.0 22.0 19.2 19.4 25.5 32.8	7.46 7.6.99 7.6.99 7.6.80 4.81 4.7	6.9 8.3 7.4 6.5 4.0 6.3 5.1 4.3 6.0 5.1	4.6 · 3.7 4.0 3.0 2.6 3.2 2.0 2.1 2.4 1.8 3.2	0.5 1.1 0.8 0.2 0.5 0.6 0.8 0.1 0.5	0.0 0.0 0.3 0.0 0.0 0.1 0.0 0.3 0.0	0.0 0.2 0.0 0.0 0.0 0.0 0.0 0.0	2.8 5.2 2.8 5.1 2.2 2.6 3.9 2.6 4.2 2.2 2.6	11 10 14 10 15 13 10 18 17 15 13	19 8 8 7 10 13 8 7 12 12 7	11883. 11872. 3September and October, 1889. 4January, 1883.
Year	100-0	42.0	52.11	28. 2ª	58-0	26.4	6-1	5-8	3.0	0.6	0. I	0.03	5.2	238	194	

Year.....

100.0

42.0

51.01

32.02

58.0

5.7

3.3

0.5

TABLE V.—Details of precipitation—Continued.

NEW HAVEN, CONN.

							(From		NEW H/ y, 1873, t		ONN. ber, 1891	, inclusi	ve.]	•		
	y dis- lon of tation.	Percen whi	tage of c	iays on fell.		Perc	Clas entage o	sificatio I days w	on of rain	nfall: without	rain.	-	st rain e day.	Grea consec No. of		
Month.	Monthly dis- tribution of precipitation.	Mean.	Max.	Min.	.00	T. to .25	.26 to	. 51 to	1.01 to 2.00	2.01 to 3.00	3.01 to 5.00	Over 5.00	Heaviest in one	With- out rain.	With rain.	Notes.
January February March April May June July August September October November December Year	Per ct. 8.6 8.7 9.0 7.5 6.9 10.6 10.8 7.9 8.3 7.9 7.3	50-4 50-9 47-0 46-9 43-5 40-7 42-6 35-7 35-7 38-0 41-2 45-7	64.5 75.0 58.0 63.3 71.0 60.0 61.3 58.1 60.0 64.5 70.0 61.3	29.0 32.1 22.6 30.3 29.0 16.6 25.8 9.7 16.6 25.8 , 20.0 16.1	49.6 49.1 53.0 53.1 50.3 57.4 64.3 64.9 58.8 54.3	33.4 31.9 29.7 33.2 29.7 28.9 25.8 20.7 22.1 23.9 27.2 31.7	8.006816 5.65.65 5.65.65 5.65.65 6.56.65	5·4 7·3 5·4 4·9 4·3 5·3 5·3 5·3 5·3	2.9 2.2 2.3 1.5 1.8 3.2 2.7 2.3 3.2 2.4	0.5 0.4 0.5 0.2 0.4 1.2 1.2 1.0 0.7 0.9	0.0 0.2 0.3 0.0 0.2 0.0 0.5 0.3 0.0 0.0	0.0 0.0 0.0 0.2 0.0 0.0 0.0 0.3 0.2 0.0	Inches. 2.5 4.6 5.6 3.3 2.8 4.5 7.6 2.4 2.9 3.8	78 9 13 8 15 9 14 17 13 16 16 24 ³	8 6 12 9 9 11 6 6 12 7 8 7	¹ 1889. ² 1874. ³ August and September, 1874. ⁴ March, 1877; September, 1889.
		***	7,50	34 3	1 3019	•	3		EW LO	<u> </u>	<u> </u>		•			
	1		1			1	[From I	ebruar	y, 1871, t	o Decem	be r, 1891	, inclus	ve.]		•	
January February March April May June July August September October November December	8-4 7-1	47.9 46.7 45.9 42.1 43.6 40.6 43.3 39.2 36.7 40.7 43.3 45.8	67.7 67.9 74.2 60.0 67.7 70.0 71.0 58.1 60.0 64.5 63.3 64.5	29.0 17.2 22.6 16.7 25.8 16.7 25.8 9.7 13.3 25.8 26.7 32.3	52. I 53. 3 54. I 57. 9 56. 7 60. 8 63. 3 59. 3 56. 7 54. 2	31. I 30. 9 28. 5 27. 6 30. 3 28. 0 24. 2 23. 8 26. 1 27. 2 32. 0	7.0 6.4 7.2 5.5 6.0 5.8 4.4 5.3 6.0	6.8 5.8 7.4 4.4 5.5 3.8 4.9 5.6 9.1 5.4	2.3 3.2 2.9 2.4 1.8 1.3 4.0 2.8 2.1 3.2 2.9	0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.6 0.5 0.5	0.2 0.0 0.2 0.2 0.0 0.3 0.0 0.2 0.2 0.2	0.0 0.2 0.0 0.0 0.0 0.0 0.0 0.0 0.0	4.0 6.7 3.8 4.2 3.6 2.0 11.8 3.3 4.3	11. 9 9 15 13 15 14 17 11 14 13	11 12 9 9 14 8 8 12 7	1 1889. ⁹ 1872. ⁹ August, 1874. ⁴ April, 1871. ⁵ June, 1877.
Year	100.0	43.0	55.91	34·4º	57.0	28· I	6.2	5-4	2.6	0-5	0.2	0:03	11.88	194	145	
							[From I		NEW O		s, LA. aber, 1891	r, inclus	ive.]			,
January February March April May June July August September November December	7·3 9·0 8·3 8·3 10·9 10·3 9·8 7·5 5·5 7·2 7·3	40- 4 39- 6 35- 4 31- 7 35- 9 52- 5 58- 5 51- 6 41- 7 25- 3 34- 7 39- 7 40- 6	77.4 67.9 54.8 50.0 58.1 73.3 77.4 80.6 63.3 48.4 73.3 58.1	16. I 21. 4 19. 4 16. 7 12. 9 26. 7 38. 7 25. 8 10. 0 6. 5 16. 7 6. 5	59.6 60.3 64.5 68.3 64.0 47.5 41.4 48.4 58.3 74.6 65.3 60.3	24.8 23.9 19.8 18.7 22.1 29.7 38.1 33.8 26.0 16.5 21.2 24.0	4.3 5.6 4.0 3.5 6.4 7.6 6.2 2.5 2 4.2 9 5.0	5·4 5·4 4·4 9·5 7·57 5·7 5·3 4·7 5·5	4.5 3.7 4.6 4.8 4.9 3.2 3.3 2.5 2.5 2.5	1.1 0.7 1.1 1.0 1.1 0.3 1.5 0.6 1.1	0.3 0.2 0.6 0.2 0.6 0.3 0.3 0.2 0.3 0.5 0.3	0.0 0.2 0.0 0.3 0.0 0.0 0.2 0.2 0.3 0.0 0.0	3·7 5·7 4·0 8·1 3·5 5·5 7·5 8·9 7·2 4·0 4·0 3·8 8·9	11 14 14 16 18 10 12 16 14 24 17 20	13 13 6 8 8 17 • 14 11 8 6 7 9	11880. 11872. 28eptember and October, 1876. 4June, 1873; July and August, 1885.
		·		-	'		'	· -,		ORK, N						
	!	 -	,							ĺ	iber, 1891	-	ive.]	, -		,
January February March April May June July August September November December	8.6 9.1 7.5 6.6 7.3 10.0 10.6 8.4 7.7 8.0 7.3	44.4 44.0 43.6 39.8 37.6 37.0 41.9 36.4 34.8 36.3 40.9	71.0 65.5 67.7 56.7 67.7 60.0 54.8 67.7 54.8 63.3 61.3	12.9 13.8 16.0 16.7 16.0 20.0 25.8 12.9 16.7 19.4 20.0 16.1	55.6 56.0 56.2 62.3 63.0 58.0 63.5 63.5 62.0 59.0	30- I 27- 8 28- 4 26- 0 26- 5 25- 2 25- 1 21- 3 22- 6 23- 2 23- 8 28- 0	6.1 7.7 6.3 4.6 7.5 6.4 4.6 6.8 6.5 6.5 6.5 6.5	4.8 5.6 5.7 4.3 5.7 4.4 5.0 4.4 5.0 4.8	3.1 -2.5 2.7 1.4 1.8 2.1 2.9 3.2 2.0 2.5 3.0 1.8	0.3 0.2 0.3 0.6 0.6 1.5 1.0 0.2 0.3 0.3	0.0 0.2 0.2 0.0 0.2 0.2 0.2 0.2 0.2 0.2	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	2.7 3.4 3.4 3.5 3.8 3.3 3.3 4.0 9 2.8 6.2	11 15 9 16 11 15 13 19 19 12 15	7688 898 57 12668	¹ 1890. ² 1872. ² February and March, 1872. ⁴ September, 1889.
			-				[From	Jannar		OLK, V	 'A. ber, 1891,	inclusiv	 re.1			
January February March April May June July August September October November December	7.2 7.2 8.9 8.2 7.6 8.4 10.3 9.3 7.6 5.7	46. I 46. 7 43. 6 42. 5 44. 7 39. 7 47. 8 47. 8 36. 8 33. 5 37. 0 37. 9	74.2 67.9 61.3 60.0 64.5 63.3 74.2 77.4 73.3 58.1 60.0 58.1	29.0 17.9 23.3 19.4 23.3 29.0 22.6 6.7 6.5 16.7	53.9 53.3 56.4 57.5 55.3 60.3 52.2 52.2 66.5 63.0 62.1	30.4 31.8 25.8 29.8 28.4 22.4 28.1 21.0 20.9 24.4	8.4 4.9 6.8 4.3 7.2 7.9 6.6 6.0 5.6 4.3 5.7	4.3 6.6 6.7 4.9 5.6 5.9 8.2 5.8 4.2 4.0	2.8 3.2 3.8 2.7 3.1 2.9 4.1 2.9 3.4 2.9	0.2 0.0 0.5 0.3 0.2 0.6 1.1 0.9 1.0 0.4 0.0	0.0 0.2 0.5 0.2 0.0 0.5 0.2 0.0 0.5 0.3 0.5	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.2 0.0 0.0	2. 2 3.48 4.6 3.8 2.6 2.7 3.3 4.2 3.8 2.5	10 9 11 13 11 12 11 14 14 21 14	8 6 7 9 10 7 9 13 11 8 7 8	11889. 1872. 31889. 4September and October, 1884. 5July and August, 1889.

264 158

0.02

4.68

TABLE V.—Details of precipitation—Continued.

NORTH PLATTE,, NEBR.

[From September, 1874, to December, 1891, inclusive.]

						1	From 8	eptenibe	er, 1874, 1	o Decen	nber, 189	ı, inclu	sive.]			
Month.	Monthly dis- tribution of precipitation.	Percen whi	tage of c	lays on fell.		Perce	Clas entage of	sificatio days w	on of rais	nfall: without)	rain.		st rain day.	Gree conse No. of		Notes.
Month.	Month tribut precip	Mean.	Max.	Min.	.00	T. to .25	.26 to	.51 to	1.01 to 2.00	2.01 to 3.00	3.01 to 5.00	Over 5.00	Heaviest rais in one day.	With- out rain.	With rain.	Notes,
January February March April May June July August September October November December	Per et. 2.6 2.1 3.6 11.5 15.1 18.2 15.1 13.0 7.8 5.8 2.1 3.1	24. I 26. 0 26. 2 35. I 41. 4 38. 8 37. 2 33. 0 22. 2 21. 9 18. 2 23. 2	53.5 53.5 51.6 70.0 58.0 66.1 51.6 61.2 40.0 58.1 43.3 61.3	0.0 6.9 6.4 10.0 29.0 13.3 19.4 12.9 10.0 3.2 3.3 3.2	75.9 74.0 73.8 64.9 58.6 61.2 62.8 67.0 77.8 78.0 81.8 76.8	22.9 25.2 23.4 27.6 29.6 26.0 25.8 23.7 17.5 18.3 17.0 21.3	0.4 0.6 1.8 3.5 6.7 4.8 4.0 1.0	0.4 0.8 2.4 3.6 4.7 3.8 2.5 8 0.6	0.4 0.0 0.2 1.2 1.3 1.8 1.3 1.5 1.0 0.6 0.0	0.0 0.0 0.4 0.2 0.6 0.4 0.0 0.2	0.0 0.0 0.0 0.0 0.0 0.0 0.2 0.0 0.0 0.0	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	Inches. 1.3 0.6 1.2 2.8 2.3 2.3 3.2 1.8 2.4 1.5 0.7 2.0	31 26 21 17 10 20 17 20 16 28 26 26	57 758 68 77 108 558 6	1 1879. 5 1884. 3 December 28, 1877, to February 8, 1878. 4 August and September, 1885.
Year	100.0	28.9	42.91	19.52	71.1	23.2	2.5	2.2	0.8	0.1	0.2	0.0	3.2	420		
							[Fron	n July,		PIA, WA Decembe	SH. 1891, i	nclusiv	e.]			
January February March April May June July September October November December Year	9.5 6.5 4.4 3.1 1.3 5.3 5.3 8.6 12.4 18.2	68. 2 63. 5 58. 3 54. 0 41. 2 40. 2 18. 7 17. 4 32. 7 55. 9 60. 7 72. 0	90.3 89.3 80.0 70.0 71.0 70.0 32.3 83.9 86.7 87.1	51.6 41.4 25.8 23.3 16.1 13.3 3.2 0.0 6.7 29.0 36.7 41.9	31.8 36.5 416.0 58.8 59.8 81.3 82.6 67.3 44.1 39.3 28.0	34·3 35·2 38·0 36·2 29·5 32·9 15·3 13·6 35·5 36·5 36·6	15.7 12.6 9.0 11.9 7.8 5.5 2.8 3.0 5.3 11.2 9.8	12.4 9.1 7.1 4.5 3.7 1.7 0.2 3.6 7.5 8.4 14.0	5.3 5.8 4.1 1.4 0.2 0.2 0.2 0.2 2.0 1.7 5.1	0.5 0.8 0.0 0.0 0.0 0.0 0.0 0.2 0.0 0.4 1.3	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	2.6 2.6 1.8 1.9 1.2 1.5 1.4 2.3 1.9 3.6 3.6	8 11 20 13 19 21 21 31 18 14 9	26 23 18 15 14 13 6 6 9 13 14 24	11882. 27833. 3 November, 1877, and December, 1878. 4 July 31 to September 7, 1885. 5 January, 1880.
-		!			-	<u> </u>			OMAH	A, NEE	BR.	errecount w		!		<u> </u>
·						,·	[From	January	, 1871, to	Decem	ber, 1891,	inclusi	ve.]	,	ı	
January February March March April May June July August September October November December	2.1 4.9 9.2	29.8 31.5 32.1 38.6 45.0 43.0 38.9 33.0 34.8 26.3 23.0 33.2	58. 0 55. 0 51. 0 63. 0 67. 7 68. 0 64. 5 54. 8 60. 0 55. 0 58. 0 49. 2.	9.7 7.1 6.4 16.0 22.2 20.0 12.9 9.7 16.0 12.9 6.1 9.7	70.2 68.5 67.9 61.4 55.0 61.1 67.0 65.2 73.7 77.0 66.8	26.9 28.9 25.7 26.8 28.1 25.2 22.7 21.4 23.0 16.4 18.6 29.2	2.1 2.0 3.4 5.6 4.5 4.8 4.8 4.0 2.6 2.6 3.8	0.8 0.55 4.3 6.3 6.3 3.6 4.9 2.2 1.2	0.0 0.1 0.4 1.4 3.1 2.9 2.5 1.2 0.6 0.2	0.0 0.0 0.5 1.6 1.8 0.3 0.2 0.0 0.0	0.0 0.0 0.0 0.0 0.3 0.2 0.0 0.2 0.0 0.0	0.0	0.9 1.6 1.1 2.6 3.0 5.0 4.3 2.6 3.7 2.9 1.6 1.1	16 17 19 11 13 11 15 23 18 22 21 26	5 5 6 11 6 5 6 6 8 4 12 12 ⁴	1 1884. 2 1873. 2 December, 1890. 4 December, 1884.
		·	•			'	<u>' </u>			GO, N.				<u>'</u>		• • • • • • • • • • • • • • • • • • • •
								ovembe	er, 1870, t	o Deceπ	iber, 1891	, inclus	ive.]			
January February March April May June June August September November December	8.0 6.0 7.1 9.4 9.7 7.1 8.0 9.7 9.7	69.6 66.6 52.7 53.3 52.2 48.8 51.0 60.5 66.2 69.8	93.5 93.5 90.0 90.3 96.7 93.5 100.0 96.7 93.5 93.3 93.5	10.0 17.9 25.8 30.0 19.4 16.7 22.6 3.2 16.7 29.0 40.0 32.3	30.4 33.4 37.8 46.7 47.8 51.2 49-0 39.5 33.8 30.2	57.3 54.6 52.0 43.9 41.6 39.2 36.8 37.9 47.0 52.4 57.2 46.5	7.5 8.3 6.2 7.7 6.2 5.9 3.1 7.6 8.6 7.3 6.8	3.50 3.77 2.79 4.36 4.36 4.55 3.8 3.6	1.1 0.7 0.8 0.2 1.1 1.9 0.8 1.6 1.0 1.7 1.3	0.2 0.0 0.2 0.0 0.3 0.5 0.3 0.2 0.0 0.2	0.0 0.0 0.0 0.0 0.0 0.0 0.5 0.2 0.0 0.0 0.0	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	2. I 1.6 2. 3 2.2 1.6 2.8 2.6 3. I 2.9 3.1 1.8 2.6	10 11 14 12 13 14 9 18 15 12 8 8	31 15 19 12 22 24 16 31 25 17 16 25	1 1885. * 1874. * July, 1877. * August, 1874; August, 1876. * July to August, 1889.
									PALEST	•						
Tanua					6		- ·			 -	ember, 1		ï			1 1 - 900
January February March April May June July August September October November December	5.3 6.8 7.2 9.6 7.2	39.4 35.1 32.6 39.0 35.2 28.3 25.8 23.9 31.3 22.4 30.7	54.8 57.1 35.5 53.3 51.6 46.7 51.6 41.9 53.3 38.7 50.0 51.6	12.9 17.9 16.7 9.7 10.0 6.5 6.5 16.7 3.2 6.7 12.9	60.6 64.9 67.4 61.0 64.8 71.7 74.2 76.1 68.7 77.6 69.3 71.6	23.2 21.6 24.0 18.4 17.0 16.1 19.3 12.5 17.4 17.8	6.8 4.6 4.2 5.9 3.6 3.9 6.0 3.7 4.2	5.4.6.9.3.4.0.6.6.0.6.3.5.4.3.5.5.4.3.5.5.4.3.5.5.5.5	2.9 3.9 3.2 2.7 3.2 2.7 1.4 2.0 4.3 2.9	1.0 0.4 1.0 2.0 1.3 0.7 1.1 1.0 0.3 0.7 0.7	0-3 0-0 0-3 0-0 1-0 0-3 0-0 0-3 0-7 0-0 0-0	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	3.4 2.6 2.6 4.4 3.7 2.9 4.4 4.4 5.1 3.4	14 13 17 13 13 22 17 15 14 25 14 14	8 78 9 4 7 6 10 5 6 5	1 1888. ² 1891. ³ November, 1883. ⁴ June to July, 1890. ⁶ September, 1885.

PENSACOLA, FLA.

							[From l	Decembe	PENSA er, 1879,	COLA, I to Pecen		τ, inclus	sive.]			
	dis-	Percer Wh	tage of ich rain	days on fell.		Регс	Clas entage o	sification f days w	on of rain	ıfall : without)	rain.		t rain day.	conse	atest cutive days—	
Month.	Monthly distribution of precipitation.	Mean.	Max.	Min.	.00	T. to . 25	. 26 to	.51 to	1.01 to 2.00	2.01 to 3.00	3.01 to 5.00	Over 5.00	Heaviest rain in one day.	With- out rain.	With rain.	Notes.
lanuary February March April May June July August Beptember October Oceember	Per ct. 8.1 6.6 9.4 6.1 5.7 9.9 11.2 13.6 8.7 5.9 7.4	46.0 43.1 38.4 30.6 30.6 43.6 53.8 48.9 37.8 24.5 33.1 36.7	54.8 78.6 67.7 50.0 48.4 60.0 71.0 80.6 66.7 45.2 60.0 61.3	25.8 31.0 19.4 10.0 9.7 23.3 22.6 35.5 23.3 6.5 16.7 9.7	54.0 56.9 61.6 69.4 69.4 56.4 46.2 51.1 62.2 75.5 66.9 63.3	29.6 29.2 23.4 19.2 19.9 27.8 32.3 28.8 23.3 15.1 20.6 22.8	6.5 5.3 4.6 3.3 3.5 5.3 8.1 6.7 4.4 2.4 3.6 4.0	5.4 5.3 4.6 4.2 4.6 5.0 7.8 4.8 3.9 3.9 6.0	3.2 2.4 3.5 2.8 1.9 3.9 3.2 4.8 3.6 2.4 2.8 3.0	1.3 0.0 1.6 1.1 0.3 1.4 1.9 1.9 1.9 1.1	0.0 0.0 0.8 0.0 0.5 0.0 0.5 1.6 0.6 0.3 0.8	0.0 0.3 0.0 0.0 0.3 0.0 0.3 0.0 0.0	Inches. 2.8 5.1 4.0 2.7 4.0 10.1 3.2 6.1 4.9 3.2 4.1 4.2	11 9 14 19 18 12 9 12 14 28 15	7 11 7 6 7 8 13 42 7 6 6	11885. 21889. 3 1887. 4 October 4 to November 8, 1891. 9 July 22 to August 3, 1899; July, 1890.
Cear	100.0	38.9	42.51	33·7²	61.1	24.3	4.8	4.9	3.1	1.3	0.4	0.1	10. 18	364	135	
							[Froi		PHILAD 1872, to I		-	nelusive	e.]			
anuary cebruary April April May une uly eptember	8.3 8.0 8.6 7.1 7.3 8.1 11.0 12.0 8.1	48.0 50.0 51.4 44.3 43.5 40.7 43.9 42.0 36.0	71.0 71.4 74.2 56.7 64.5 56.7 61.3 71.0 63.3 58.1	29. 0 28. 6 45. 2 33. 3 19. 4 23. 7 35. 5 25. 8	52.0 50.0 48.6 55.7 50.5 59.3 56.1 58.0 64.0	32.6 34.2 37.0 32.3 32.7 28.8 28.9 27.9 23.5	8.3 7.5 7.1 6.3 5.0 4.0 5.2 5.2	5.6 5.8 5.9 3.7 4.0 5.0 5.2 3.4 3.8	1.2 2.6 1.2 1.8 1.8 2.5 4.0 4.4 2.2	0.3 0.0 0.2 0.2 0.0 0.3 0.6 0.8	0.0 0.0 0.0 0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0 0.0 0.0 0.0	2.5 1.8 2.7 2.1 1.8 2.5 3.0 5.2 4.6	13 8 7 14 13 10 10	6 7 11 8 8 8 8	¹ 1889. ² 1874. ³ September, 1884. ⁴ September, 1889.
October November December	7·3 7·6 6·6	39.0 40.8 43.1	58. I 40. c 51. 6	9·7 30·0 16·1	61.0 59.2 56.9	29.4 29.3 31.1	3.9 5.2 6.0	4·0 4·0 4·7	1.1 1.8 1.1	0.6 0.5 0.2	0.0 0.0 0.0	0.0 0.0 0.0	2.7 2.6 2.2	21 12 12	6 7 7	
ear	100-0	`43.6	51.01	37·5°	56.4	30.6	5.8	4.6	2. I	0.3	0.1	0.02	5.2	228	124	
							[From		PUNTA ber, 187			inclusiv	/e.]			_
lanuary February March April May June June July August September October November December	5. 1 3.9 3.0 4.6 8.3 11.5 16.5 17.0 16.5 7. 1 3.4 3.0	25.3 20.9 15.9 21.9 33.1 46.7 60.4 63.9 53.1 32.0 22.2 23.4	45.2 46.4 32.3 46.7 74.2 70.0 80.6 77.4 73.3 58.1 36.7 48.4	3.2 7.1 3.2 6.7 16.1 20.0 48.4 51.6 33.3 9.7 13.3 9.7	74.7 79.1 84.1 78.1 66.9 53.3 39.6 36.1 46.9 68.0 77.8 76.6	19. 1 15. 6 10. 8 14. 7 20. 4 27. 9 34. 6 41. 0 25. 3 22. 3 15. 8 18. 3	1.3 0.9 3.0 2.5 5.4 9.7 12.6 8.8 11.4 3.5 2.8	2.4 2.9 1.3 2.5 4.3 5.5 7.6 8.3 8.3 2.8 1.6	1.6 0.9 0.5 1.1 2.4 3.0 4.4 6.7 1.3 0.8 0.3	0.5 0.6 0.0 0.8 0.3 0.0 1.5 1.2 1.4 0.8 0.0	0.3 0.0 0.3 0.3 0.3 0.0 0.3 0.0 0.3 0.0 0.3	0.0 0.0 0.0 0.0 0.3 0.3 0.0 0.0 0.0	3. 1 2. 2 3. 4 3. 1 6. 3 5. 1 3. 5 1. 5 2. 5 6. 3	29 17 20 15 14 14 10 6 9 14 17 15	6 5 4 6 9 9 14 10 14 8 5 4	1 1880. 2 1875. 8 1882. **Checember 18, 1875, to January 22, 1876. 5 July 18 to August 3, 1882.
	!					-			PITTS	BURG,	PA.					
-							[From	January	1871, to	Decem	ber 1891,	inclusi	ve.]			
January February March April June June July July Jugust October Dovernber December	8.5 7.7 7.7 7.2 9.0 9.6 13.3 8.8 6.7 6.9 7.7	66. 1 61. 6 59. 6 50. 5 50. 2 46. 8 47. 5 37. 9 39. 0 43. 2 53. 5 60. 2	90. 3 85. 7 83. 9 70. 0 80. 6 80. 6 61. 3 64. 5 60. 0 74. 2 70. 0 93. 5	29. 0 28. 6 22. 6 26. 7 22. 6 23. 3 35. 5 16. 1 16. 7 16. 1 33. 3 29. 0	33.9 38.4 40.4 49.5 49.8 53.2 52.5 62.1 61.0 56.8 46.5 39.8	53.1 47.2 47.5 40.3 33.8 30.1 29.8 26.2 28.2 32.9 41.9 48.2	7.1 8.4 7.7 4.4 9.8 9.8 7.4 4.9 5.7 7.5 7.0	5.2 5.1 3.5 4.0 5.4 5.4 5.4 5.6 4.2 3.0 4.3	0.5 0.7 0.9 1.8 1.0 1.9 3.7 1.5 1.0 1.4 1.1	0.2 0.2 0.0 0.0 0.2 0.2 0.6 0.5 0.2 0.0 0.0	0.0 0.0 0.0 0.0 0.0 0.2 0.2 0.2	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	2.3 2.1 1.4 1.8 2.3 2.5 3.2 3.6 3.4 2.0 1.8 2.4	7 7 9 15 10 13 9 13 17 10 9	22 12 11 9 11 12 10 7 9 7 11 18	¹ 1890. ² 1891. ³ August 1888. ⁴ October, 1874. ⁵ January, 1582.
									ORT HU			!		l!		
			-15-6			(57 %)			1874, to	i						
January February March April May Use Use July August Detober November	6.6 7.8 9.1 6.6 10.0 10.6 8.2 8.5 7.5 9.1 8.8 7.2	59-2 57-3 53-7 44-1 45-2 47-5 39-3 39-4 49-8 55-6 60-0	77-4 75-0 67-7 56-7 73-3 67-7 64-5 56-7 80-3 76-7	41.9 35.7 29.0 33.3 22.6 30.0 22.6 16.1 26.7 29.0 40.0 32.2	40.8 42.7 46.3 55.9 54.8 52.5 60.6 60.6 50.2 44.4 40.0	50.9 46.0 41.4 36.5 34.1 33.0 29.1 30.1 29.2 36.8 44.4 52.5	5.5 6.7 5.7 3.5 6.3 3.0 4.8 7.3 6.0 3.8	2.8 3.8 5.7 3.3 4.6 5.7 5.3 4.5 7 5.3 3.5 3.3	0.0 0.8 0.9 0.8 1.5 2.5 0.9 1.4 1.7 0.7 1.9	0.0 0.0 0.0 0.4 0.0 0.2 0.2 0.0	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.2 0.0 0.0	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	I.0 I.5 I.5 I.5 2.2 I.6 2.2 3.2 I.6 I.8 I.6	9 6 18 13 13 9 12 13 12 12 11	7 8 9 10 10 10 9 7 16 10	¹ 1876. ² 1879. ³ March, 1889. ⁴ September and October, 1888.
ear	100.0	40.2	57.01	42.32	50.8	28.6	5.1	4.3	1.1	0.1	0.02	0.0	2.2	183	214	

4-3

49.2

57.91

43-32

50.8

38.6

5.1

183

214

3.2

TABLE V.—Details of precipitation—Continued.

PORTLAND, ME.

							[From	January,	1870, to	Decem	ber, 1891	, inclus	sive.]			
	y dis. on of itation.	Percen wh	tage of c ich rain	lays on fell.		Perc	Clas entage o	ssificatio f days w	nfall: without) rain.		st rain		itest cutive days—	Notes.	
Month.	Monthly dis- tribution of precipitation.	Mean.	Max.	Min.	.00	T. to	.26 to	.51 to	1.01 to 2.00	2.01 to 3.00	3.01 to 5.00	Over 5.00	Heavies in one	With- out rain.	With rain.	
January February March April May July August September November	8.2 7.0 7.7 7.9 8.9 8.4 7.5 9.3	48.7 46.0 49.3 39.5 43.8 43.3 45.3 36.2 39.2 44.6	71.0 72.4 71.0 70.0 61.3 60.0 61.3 56.7 58.1	22.6 10.7 22.6 23.3 19.4 23.3 25.8 9.7 16.7 19.4	51-3 54-0 50-7 60-5 56-2 56-7 54-7 60-8 55-4	34. I 30. 8 35. 9 27. 5 30. 6 29. 8 31. 6 27. 8 24. 9 25. 0	6.8 7.2 6.0 5.9 6.5 5.3 3.6.9 6.5	5·3 5·9 4·4 4·3 4·5 5·8 3·5 3·9 4·9	2.3 2.7 2.3 1.4 2.0 1.9 2.2 2.5 2.7 2.3	0.2 0.3 0.2 0.3 0.0 0.6 0.5 0.9 0.3	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	Inches. 2-3 3-0 2-1 2-4 1-9 2-6 2-6 2-7 3-9 3-2	12 15 9 14 20 9 13 14 16	11 6 10 11 10 7 10 10 10	¹ 1884. ² 1872. *October, 1873. ⁴ May, 1871. ⁵ April, 1878, and January, 1879.
December Year	l	45.0	52.61	32.0 ²	55.0 56.6	29.5	6.3	4.6	2.2	0.5	0.0	0.0	3.93	12 20 ⁴	7	
			<u> </u>	I	<u> </u>	<u> </u>	1	l <u>:</u> .	POPT.	AND, OI	1			<u> </u>		<u> </u>
							[From .	January,		•	ber, 1891	, inclus	ive.]			
January February March April May June July August September December	13.5 12.2 6.8 5.4 4.0 1.2 1.2 3.5 8.3 12.4	66. I 65. I 62. 6 53. 3 43. I 40. 5 16. I 14. 2 27. 7 48. I 57. 2 64. 8	90. 3 96. 6 87. 1 73. 3 83. 9 76. 7 58. 1 35. 5 60. 0 80. 6 80. 0	29.0 28.6 25.8 20.0 22.4 10.0 0.0 0.0 0.0 16.1 33.3 29.0	33.8 34.8 37.4 46.7 59.5 83.9 85.8 72.3 51.9 42.8 35.2	38.2 38.4 38.6 38.3 32.8 32.5 13.4 11.1 19.2 30.8 34.3	13.4 10.8 11.4 8.6 7.3 4.8 1.9 2.4 3.8 9.2 9.0	9.7 10.1 8.4 5.7 2.7 3.0 0.6 0.7 4.2 5.2 10.0	4.2 5.0 4.0 0.7 0.3 0.2 0.2 0.0 0.5 2.4 2.7 3.9	0.3 0.7 0.2 0.0 0.0 0.0 0.0 0.0 0.5 0.7	0.2 0.2 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0. 2 0. 0 0. 0 0. 0 0. 0 0. 0 0. 0 0. 0	5.6 3.8 2.2 1.4 1.8 1.1 0.8 1.2 3.6 6.7	15 11 21 12 15 26 31 30 18	27 24 20 15 14 16 7 6 7 19	1 1831 and 1891. 21872. 3June and July, 1883. 4 February and November, 1872
Year	100-0	46.6	55·9¹	38.82	53-4	30.0	8. r 	6. 1	2.0	0.3	0.1	0.03	6.7	57 3	404	
							[From				Y, TEX. ber, 1891,	inclusi	ve.]			
January February March April May May June July August September October November	4.5 4.9 5.9 11.3 11.8 6.9 12.8 17.2 9.9	17.7 17.7 18.1 13.1 19.0 15.2 14.2 20.9 29.1 18.3 17.6	38.7 57.1 32.3 33.3 41.9 30.0 38.7 45.2 56.7 38.7 38.7	0.0 6.5 0.0 6.5 0.0 0.0 3.3 3.2 0.0 6.5	82.3 82.3 81.9 86.9 81.0 84.8 85.8 70.1 70.9 81.7 82.4	14-7 13-9 14-3 8-8 11-3 9-8 9-1 13-3 18-9 11-8 14-5	1.2 1.8 1.2 2.3 2.2 1.9 2.7 2.0 3.1 3.4 1.6	0.8 1.3 2.2 0.8 2.7 1.7 2.0 3.2 3.1 1.0 1.3 2.0	1.0 0.7 0.2 0.8 1.8 1.2 0.2 1.5 2.5 1.7 0.2	0.0 0.2 0.2 0.4 0.4 0.0 0.7 1.3 0.2 0.0	0.0 0.0 0.0 0.2 0.6 0.2 0.2 0.2 0.0 0.0	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	1.8 2.2 3.7 4.4 3.5 4.2 4.2 5.6 3.6 1.1	31 29 29 30 29 30 31 31 29 30 30	6 7 5 5 5 4 6 9 7 4 5 6	11889. 21883. 38eptember, 1884. 4July to September, 1884. 5 August, 1880.
Year	100-0	18-4	24.91	11.28	81.6	13.0	2.0	1.9	1.0	0.3	0.1	0.02	5.68	714	98	
							[From I	Novembe		STER, I to Decen	N. Y. nber, 189:	r, inclus	sive.]			
January February March April May July July September October November December	7.7 8.8 7.1 8.2 9.4 8.5 7.1 9.2 8.5 8.5	66.7 61.0 57.8 41.4 39.3 40.5 37.7 34.5 37.5 48.9 53.2 63.0	90. 3 85. 7 87. I 56. 7 80. 6 56. 7 54. 8 54. 8 50. 0 74. 2 73. 3 48. 4	41.9 25.0 29.0 23.3 19.4 20.0 22.6 6.5 13.3 22.6 36.7 12.9	33·3 39·0 42·2 58·6 60·7 59·5 62·3 65·5 51·1 46·8 37·0	55.2 50.4 46.4 30.6 26.9 28.2 24.7 24.5 27.8 37.1 41.2 51.4	5.8 6.9 6.3 5.8 6.7 7.7 4.5 5.8 7.1 8.2 6.5	4.6 2.7 4.0 4.6 2.8 3.7 3.4 3.5 3.2 3.2 3.1	0.9 1.0 0.9 1.2 2.8 1.3 1.6 0.8 1.4 1.2	0.2 0.0 0.2 0.0 0.0 0.3 0.2 0.2 0.2	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.3 0.0 0.2	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	2.1 1.6 2.1 1.8 1.9 1.8 2.1 3.3 2.1 1.6	6 11 14 12 13 10 10 14 11 15 13 8	21 13 10 8 15 8 6 7 7 7 10 14	11890. 21877. 3 August, September, and October, 1889. 4 January, 1890.
	<u> </u>	-							ROSEBI		1	-		<u>. </u>	'	
							[From			•	ber, 1891,	inclusi	v e.]			
January Tebruary Tebruary March April May June July August Sptember ctober ovember		64.5 65.1 50.5 49.0 38.9 29.0 12.4 8.4 23.1 43.0 48.3 64.9	93·5 89·3 71·0 63·3 64·5 70·0 29·0 16·1 53·3 74·2 86·7 90·3	35·5 32·1 22·6 26·7 19·4 6·7 0·0 0·0 6·7 16·1 13·3 38·7	35·5 34·9 49·5 51·0 61·1 71·0 87·6 91·6 76·9 57·0 51·7 35·1	40.8 44.6 35.3 36.4 23.8 10.4 7.3 20.4 29.7 35.7 41.3	11.5 7.6 10.1 8.3 6.2 3.8 0.9 0.9 1.6 8.0	7.6 8.6 3.7 3.1 1.8 1.0 0.7 0.2 0.9 4.7 3.8	2.8 4.1 1.4 0.5 0.5 0.5 0.0 0.2 0.6 2.4	1.8 0.3 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	2.8 2.9 1.9 1.1 1.5 1.6 1.1 1.0 1.2 1.4 3.18	15 9 21 16 17 27 31 31 28 17 15	21 19 11 13 7 8 5 4 11 16	11891. 1890. 3.1 rainfall not considered in monthly columns, the month of November, 1885, when it fell not being complete. 1885. 5 June 30 to August 17, 1889. 5 January 15 to February 19, 1878.

TABLE V.—Details of precipitation—Continued.

SACRAMENTO, CAL.

							[Fro			ENTO, Decemb	CAL. er, 1891, i	nclusiv	e.]		•	•
Month.	Monthly distribution of precipitation.	Percent whi	tage of c	iays on fell.	Classification of rainfall: Percentage of days with (or without) rain.										test cutive days—	Notes.
Month.	Month tribut precip	Mean.	Max.	Min.	•00	T. to	.26 to	.51 to	1.01 to 2.00	2.01 to 3.00	3.01 to 5.00	Over 5.00	Heaviest rai	With- out rain.	With rain.	Notes.
anuary Pebruary Afaroh pril May une uly ugust leptember October	Per et. 18.7 14.7 14.7 9.1 3.6 0.5 0.3 0.3 0.5 4.1 10.2 23.3	34.6 33.2 36.2 30.5 14.1 7.4 2.2 1.5 6.2 13.5 18.7 38.1	64.5 64.3 58.1 56.7 35.5 33.3 6.5 6.5 20.0 41.9 70.0 80.6	19.4 14.3 12.9 6.7 3.2 0.0 0.0 0.0 0.0	65.4 66.8 69.5 85.9 92.8 97.8 98.5 93.8 61.9	21.7 20.0 23.7 20.0 10.6 6.7 2.2 1.5 4.7 9.9 11.6 23.0	4.8 4.8 5.8 6.0 1.8 0.5 0.0 0.0 1.1 1.7 3.1 5.2	4.8 5.1 5.1 3.3 1.4 0.0 0.0 0.4 0.9	2.8 3.3 1.2 0.7 0.2 0.0 0.0 0.0	0.5 0.0 0.5 0.0 0.0 0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.2 0.0 0.0 0.0 0.0	0.0 0.0 0.2 0.0 0.0 0.0 0.0 0.0	Inches. 2.7 1.9 2.6 5.3 1.9 0.8 T. T. 0.8 1.8 3.1	18 15 24 20 23 30 31 31 30 31 30	11 8 12 9 5 7 1 2 3 6 8	11889. 21883. 31850. 4 May 9 to October 15, 1886. 5 November 29 to December 13, 1859.
ear	100.0	19-7	26.31	15.62	80.3	13.0	2.9	2.6	1.0	0.2	0.03	10.0	5· 3 ⁸	1604	155	
							[From				, UTAH. er, 1891, i	nclusive	e.]			
fanuary February March April May une une September October November	9.2 10.8 10.3 10.3 6.2 5.0 7.2 5.1	35·7 32·5 32·4 32·0 23·8 14·8 13·3 19·2 13·3 22·0 24·4 33·7	71.0 53.6 54.8 53.3 51.6 26.7 45.2 35.5 40.0 41.9 53.3 74.2	9.7 14.3 6.5 16.7 3.2 3.3 0.0 3.2 3.3 3.3 9.7	64.3 67.5 67.6 68.0 76.2 85.2 86.7 78.0 75.6 66.3	30.0 26.9 23.6 21.3 15.6 11.7 11.2 15.4 9.2 14.0 18.1 26.9	4.9 4.2 5.4 6.5 2.0 1.6 2.7 4.6 4.4 4.8	0.2 1.2 3.2 3.5 2.7 0.9 0.5 1.1 1.6 3.4 1.7 2.0	0.0 0.2 0.2 0.7 0.5 0.2 0.0 0.0 0.4 0.0 0.2	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0.6 1.3 1.2 1.4 2.0 0.7 0.6 1.7 0.9 1.6 0.9	22 15 23 16 28 21 31 27 28 29 24 21	7 7 7 4 4 7 5 6 7 8	1 1891. 2 1880. 3 June and July, 1880. 4 January, 1887.
Year	100.0	24.8	37.01	19-13	75-2	18.7	4.0	1.9	0.2	0.0	0.0	0.0	2.0	478	114.	
							•10	-		DIEGO,						
		,			- i			October	, 1874, to	Decem	ber, 1891,	inclusi	ve.]			
January February March April June June June July August September October November	10.2 10.2 3.1 1.0 1.0 1.0 1.0 3.1	21.4 26.2 24.9 20.2 14.6 6.3 2.5 4.0 4.3 10.9 12.8	38-7 60-7 61-3 33-3 29-0 16-7 12-9 9-7 16-7 25-8 30-0 67-7	6.5 3.6 9.7 6.7 3.2 0.0 0.0 0.0 0.0 3.3 3.2	78.6 73.8 75.1 79.8 85.4 93.7 97.5 96.0 95.7 89.1 87.2 76.9	13.3 16.4 17.2 16.4 13.1 6.3 2.5 3.8 3.9 10.0 9.3	3.8 3.9 4.4 1.8 0.9 0.0 0.2 0.4 0.2 2.0 3.7	2.8 4.2 2.7 1.8 0.4 0.0 0.0 0.0 0.0 0.4 1.1 2.7	1.3 1.7 0.6 0.2 0.2 0.0 0.0 0.0 0.0 0.3 0.2 2.0	0-2 0-0 0-0 0-0 0-0 0-0 0-0 0-0 0-0 0-2	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	2-5 2-0 1-4 1-1 1-1 0-2 0-1 0-3 0-4 1-8 2-8 2-2	25 25 25 22 28 30 31 30 31 24 25	6 11 9 6 4 2 3 1 3 4 5	1 1884. 2 1877 and 1881. 3 1879. 4 May 30 to October 12, 1877. 5 February, 1890.
Year	100.0	14.3	26.01	8.82	85-7	10.6	1.8	1.3	0.5	0.05	0.0	0.0	2.88	1364	115	
							(From			ANCISC	O, CAL. er, 1891,	inclusiv	re.1			
January February March April May June July August Soptember October November December	15.5 13.5 8.0 2.9 0.4 0.05 0.05 0.8 3.7 11.8 22.3		76. 1 75. 0 96. 8 63. 3 38. 7 36. 7 6. 5 23. 3 45. 1 71. 0 67. 7	19-4 10-7 16-1 6-7 0-0 0-0 0-0 0-0 0-0 0-0	59-4 59-5 62-6 70-1 84-5 90-3 98-5 93-3 85-6 75-7 61-9	23·5 24·1 24·5 21·6 13·4 8·6 2·9 1·5 5·9 9·7 15·4 19·4	6.8 6.6 5.6 4.1 0.6 0.8 0.0 0.6 1.5 3.5 8.6	6.3 6.8 5.0 1.9 1.2 0.3 0.0 0.3 1.8 2.5 5.1	3-5 2-5 1-9 2-2 0-3 0-0 0-0 0-0 1-4 2-2 4-1	0.3 0.4 0.3 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.5 0.8	0.2 0.2 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	4.7 3.4 2.7 1.8 1.3 1.0 0.4 0.1 0.9 1.6 4.0 3.1	18 22 21 26 31 30 31 30 31 30 31	19 13 12 11 5 4 4 1 1 11 13	¹ 1888. ² 1877. ² May to September, 1880. ⁴ January, 1878.
							rp			FE, N. M		Inalus!	wa 1			
Ionnam	F	T sa r	1		-	1000			I	1	ber, 1891		1	1-		1,004
January February March	6. t 4.8	22.4 28.0 23.4	35·5 46·4 41·9	9.7 13.8 3.2	77.6 72.0 76.6	21.2 25.3 21.5	1.0	0.8	0.0	0.0	0.0	0.0	0.6	22 20 25	7 4 8	1 1885. 2 1872. 3 July, 1875.

											100000		-	-	Seed but Seed	
January February		22-4	35·5 46·4	9.7 13.8	77.6	21.2	1.0	0.2	0.0	0.0	0.0	0.0	0.6	22	7	1 1885- 2 1872.
March		23.4	41.9	3-2	76.6	21.5	1.7	0.2	0.0	0.0	0.0	0.0	0.6	25	8	3July, 1875.
April May	5-4	25.3	53.3	6.7	74·7 75·4	22.3	2.1	0.7	0.2	0.0	0.0	0.0	1.3	17	7	November and December, 1872. 5 August and September, 1878.
June	8.2	25.6	46.7	6.7	74-4	21.3	3.0	0.6	0.7	0.0	0.0	0.0	1.2	23	9	and and any articles
July		52.3	67.7	32-3	47-7	41.0	7.2	2.5	1.6	0.0	0.0	0.0	1.5	9	13	
August		45-5	64.5	25.8	54.5	34-7	5.6	4-I	1.1	0.0	0.0	0.0	1.4	12	10	
September		27.6	50.0	13.3	72.4	20.7	4.5	1.7	0.7	0.0	0.0	0.0	1.4	23	7	
October		15.8	45-2	0.0	84.2	10-9	3.1	1.6	0.2	0.0	0.0	0.0	1.2	31	.5	0.
November		19.0	40-0	3-3	81.0	15.6	2.4	0.8	0.2	0.0	0.0	0.0	1.1	25	6	
December	5-4	23.5	45.2	6-5	76.5	20-4	2.2	0.5	0-4	0.0	0.0	0.0	1.1	27	5	
Year	100-0	27.7	33.21	20.52	72-3	23.0	3.1	1.2	0.4	0.0	0.0	0.0	1.58	524	145	

TABLE V.—Details of precipitation—Continued.

RAVANNAH GA

							[Fror	n Janua		NNAH, (to Decen	3A. nber, 1891	, inclusi	ve.]			•
· -	dis- n of	Percen wh	tage of c	iays on fell,		Perce	Clasentage of	sificatio days w	n of rair	nfall: without)	rain.		t rain day.	conse	atest cutive days—	
Month.	Monthly dis- tribution of precipitation.	Mean.	Max.	Min.	•00	T. to .25	.26 to	.51 to	1.01 to 2.00	2.01 to 3.00	3.01 to 5.00	Over 5.00	Heaviest rain in one day.	With- out rain.	With rain.	Notes.
January Pebruary March April May June June July August September October November December	Per at. 6.4 5.8 7.4 7.2 5.6 13.1 10.2 14.7 10.8 7.2 \$.1	35·5 39·3 33·1 30·6 30·1 45·7 45·3 51·3 39·2 27·2 27·0 32·0	58. I 71. 4 51. 6 46. 7 51. 6 60. 0 71. 0 67. 7 42. 0 56. 7 61. 3	9.7 21.4 19.4 13.3 16.1 20.0 9.7 32.3 23.3 6.5 16.7 3.2	64-5 60-7 66-9 69-4 69-9 54-3 54-7 60-8 72-8 73-0	24. I 26. 3 18. 9 18. 7 19. 2 26. 0 28. 3 28. 8 21. 3 17. 2 18. 3 20. 7	4.6.48 5.938 9.51 6.89 4.50	4.2 4.4 5.7 3.6 4.1 4.0 5.0 7.8 3.4 3.0 2.8	2.3 1.8 2.1 1.4 5.2 4.4 6.0 3.2 2.3 1.4	0.3 0.0 0.2 1.0 0.2 1.6 1.1 1.7 0.2	0.2 0.2 0.5 0.2 0.8 0.8 0.2 0.8 1.0 0.2	0.0 0.0 0.0 0.0 0.0 0.2 0.0 0.3 0.0 0.0	Inches. 3.5 3.1 3.8 3.2 5.4 3.1 8.6 4.9 4.4 2.1	21 13 16 21 18 14 14 11 16 25 18 30	7 10 55 88 17 10 96 6	¹ 1891. ² 1871. ³ November and December, 1889. ⁴ July, 1886.
Year	100.0	36.4	41.61	28.82	63.6	22.3	5.5	4.5	3.0	0.7	0.4	0.04	8.6	328	174	
						_	[Fron	n Octob		EPORT,	LA. iber, 1891 —	, inclusi	ve.]			· · · · · · · · · · · · · · · · · · ·
January February March April May June July August September October November December Year	9.9 9.1 10.7 8.5 7.1 7.3 4.5 6.7 9.4	44.8 39.6 39.0 37.5 34.4 36.2 38.4 29.8 30.3 28.9 37.0 34.3	77.4 64.3 64.5 60.0 74.2 53.3 71.0 67.7 80.0 80.6 76.7 71.0	22.6 14.3 22.6 20.0 12.9 10.0 12.9 9.7 6.7 3.2 20.0 9.7	55. 2 60. 4 61. 0 62. 5 65. 6 63. 8 61. 6 70. 2 69. 7 71. 1 63. 0 65. 6	28.4 23.0 23.1 21.0 22.3 22.5 26.1 29.4 19.4 21.3 21.7	6. I 5.5 5.0 5.2 4.4 4.8 3.0 3.7 5.2 4.3	5.6 2 6.0 6.0 7 3.98 4.9 5.8 4.4 3.1 4.4	4.0 4.1 3.1 5.3 2.7 1.8 2.7 1.3 2.3 2.2 4.3 3.7	0.3 0.7 c.6 1.0 0.6 1.2 0.3 0.0 1.1 1.3 1.1	0.2 0.3 0.3 0.3 0.0 0.3 0.3 0.3 0.3 0.3	0.2 0.0 0.0 0.3 0.0 0.0 0.0 0.0	5·72 4·4 4·5 2·5 4·5 4·8 4·7 6·9	14 15 18 14 17 20 20 12 28 24 15 19	9 8 10 11 15 11 14 10 15 16 12 8	11885. 21872. 3 October and November, 1874. 4 October and November, 1885.
		33.9		-5-4		-	-		<u>.</u> .	NE, WA	'					<u> </u>
					· ·		[From S	eptemb		•	nber, 1891	, inclusi	ve.]			·
January February March April May June July August September October November December	14.0 11.2 7.3 6.1 6.7 11.2 3.9 2.2 5.6 9.5 7.8 14.5	55.2 50.3 37.5 38.8 33.1 43.3 20.5 14.4 26.7 44.1 48.3 61.8	87.1 71.4 61.3 60.0 51.6 76.7 38.7 29.0 50.0 58.1 66.7 87.1	22.6 20.7 16.1 10.0 16.1 6.7 0.0 3.2 10.0 16.1 16.7 29.0	44.8 49.7 62.5 61.2 66.9 56.7 79.5 85.6 73.3 55.9 51.7 38.2 60.5	44.8 39.4 32.0 35.2 27.6 34.5 17.0 12.3 23.3 36.6 43.9 50.0	7.1 7.1 5.0 3.8 7.6 1.5 2.8 6.2 3.6 4.8	2.6 3.9 0.6 0.0 1.8 0.9 0.6 0.0 1.1 1.1 3.2	0.6 0.0 0.3 0.0 0.9 0.6 0.6 0.3 0.3	0.0 0.0 0.0 0.0 0.3 0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	1.4 0.8 0.7 1.1 0.9 2.2 1.2 0.7 1.1 1.4 0.8	19 9 23 20 21 19 31 26 19 15 12 13	20 10 9 10 6 13 7 5 5 8 10 14	¹ 1887, 1890, 1891. ² 1883. ³ June, 1888. ⁴ June 13 to August 15, 1883. ⁵ January 12 to February 6, 1890.
1		<u> </u>				1			SPRING	FIELD,	ILL.					
				. — -			[From	July, 1	879, to I	Decembe	r, 1891, i	nclusive).] 		- - -	
January February March April May June July August September October November December	9.3 6.7 7.8 12.9 13.2 6.4 6.4 8.5 8.5 8.5	46.5 50.7 47.6 44.7 46.8 49.4 37.2 33.7 54.4 38.2 44.9	64.5 60.7 71.0 56.7 63.3 58.1 54.8 50.0 54.8 53.3 64.5	35·5 39·3 25·8 30·0 33·3 36·7 9·7 9·7 13·3 22·6 23·3 19·4	53·5 49·3 52·4 55·3 50·6 62·8 66·3 65·6 61·8 55·1	36.3 36.0 36.3 31.1 30.6 32.7 27.3 24.6 22.8 27.3 24.8 35.0	6.5 6.2 5.9 6.9 5.4 5.3 5.0 3.8 4.0 6.2 5.3	2.7 5.9 4.3 5.0 7.3 6.6 3.2 4.2 5.4 5.4 5.5 4.8	1.0 1.8 1.1 1.7 2.4 3.1 1.5 1.0 1.3 2.0 1.3 1.0	0.0 0.6 0.0 0.5 1.7 0.2 0.2 0.8 0.2 0.5 0.0	0.0 0.3 0.0 0.5 0.0 0.2 0.3 0.2 0.2	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	1.6 3.4 1.6 1.7 3.4 2.8 2.2 3.2 3.2 3.2 3.3 3.4	7 8 13 16 10 10 18 15 14 10 11	8 10 7 8 9 7 7 7 9 5 7 6 7 10 ⁵	1:880. 3:1886. 3:February and May, 1882. 4July and August, 1881. 6:February, 1884.
!								• • •		ouis, m		:				
January February March April May June July August Beptember Cottober November December	13.4 8.9 6.8	39. 2 40. 5 43. 5 42. 7 43. 9 46. 3 35. 0 32. 1 28. 4 30. 4 38. 3	67.7 64.3 64.5 66.7 64.5 63.3 54.8 53.8 63.3 63.3	9.7 21.4 22.6 23.3 25.8 10.0 9.7 6.5 6.7 16.1	60.8 59.5 56.5 57.3 56.0 53.6 65.1 671.6 69.6 61.6 59.7	29.8 26.8 31.0 29.7 29.8 29.7 20.5 21.7 20.6 27.1 31.5	5.2 7.4 6.3 6.7 5.8 5.9 4.9 3.9 4.9	2. 9 4. 4 4. 5 3. 8 5. 5 6. 8 4. 3 4. 3 4. 3 4. 3 2. 9 5. 2 3. 5	0.9 1.5 1.5 2.1 2.2 2.7 2.6 0.9 1.7 1.5	0.2 0.2 0.2 0.3 0.5 0.5 0.6 0.3 1.0 0.6	0.2 0.2 0.0 0.1 0.2 0.8 0.0 0.0 0.0	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	3·5 4·0 2·3 3·9 3·3 4·5 2·7 2·6 3·2 2·9 2·4	12 12 9 13 11 23 19 23 15 15	8 II 6 7 7 7 8 5 7 7 10	1:878. 2:371. 3 June and July, :871. 4 February, :884.

Year...... 100.0 38.4 48.51 19.72 61.6 26.4 5.4 4.4 1.7 0.4

Table V. – Details of precipitation.

ST. PAUL, MINN.

						ı	From N	ovember		o Decem	iber, 1891	, inclús	ive.}			
	Monthly dis- tribution of precipitation.	Percen wh	tage of c	lays on fell.		Perc	Clas entage o		n of rair ith (or v		rain.		st rain day.	conse	atest cutive days—	
Month.	Month! tributi precip	Mean.	Max.	Min,	.00	T. to .25	.26 to	.51 to	1.01 to 2.00	2.01 to 3.00	3.01 to 5.00	Over 5.00	Heaviest rain in one day.	With- out rain.	With rain.	Notes.
January February March April June July August September October December	Per et. 3.6 3.2 5.1 8.3 11.9 15.6 11.9 13.3 11.2 6.9 4.3 4.7	37.3 37.8 38.6 38.7 42.6 45.1 39.8 37.8 33.0 36.2 40.6	71.0 79.0 58.1 63.3 67.7 66.7 60.0 54.8 60.0 53.1 95.0	9.7 3.6 19.3 13.3 19.6 30.0 12.9 19.6 13.3 9.7 18.0	62-7 62-2 61-4 61-3 57-4 54-9 60-2 62-2 67-0 63-8 59-4	33.9 35.0 33.4 29.9 29.2 28.3 27.7 25.0 27.3 25.4 31.7 36.2	2.8 1.7 3.8 4.7 7.2 8.1 6.5 4.9 7.0 4.3 2.7 3.0	0.3 1.1 2.8 4.5 5.7 3.5 4.9 3.5 1.3	0.3 0.0 0.2 1.3 1.5 2.0 1.8 2.5 1.9	0.0 0.0 0.0 0.2 0.8 0.6 0.5 0.1 0.0	0.0 0.0 0.0 0.0 0.0 0.2 0.2 0.0 0.0	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	Inches. 1.2 0.8 1.3 1.9 2.1 2.8 3.7 2.3 2.7 2.0 1.2 1.5	16 13 14 13 12 8 16 15 13 28 12	98 98 98 97 77 68	1 1884. 2 1871. 2 September and October, 1872. 4 May and June, 1883.
Year	100.0	38.9	54·11	27. 12	61.1	30-3	4.6	2.7	1.1	0.2	0.03	0.0	3.7	303	114	
										ENT, M						
		 -		···	i		From S	ptembe	r, 1880, 1	to Decen	aber, 189	r, inclus	Bive.]		,	
January February March April May June July August September October November	3.1 6.8 9.5 19.4 14.2 12.5 11.0	38.7 40.3 32.6 33.0 40.0 44.6 32.3 34.7 36.8 36.4 39.0	61.3 64.3 58.1 53.3 48.4 53.5 54.5 50.0 48.4 56.7 64.5	19.4 17.9 16.1 23.3 9.7 30.0 25.8 12.9 13.3 19.4 13.3	61.3 59.7 67.4 67.0 68.0 60.0 55.4 67.7 65.3 63.2 63.6 61.0	36.9 38.4 30.5 27.3 23.5 27.8 35.2 24.0 25.3 29.3 35.6	1.5 1.6 2.1 3.6 3.8 5.2 4.7 4.4 5.3 2.9 0.6	0.3 0.0 2.1 4.7 4.3 3.5 3.6 3.8 0.3	0.0 0.0 0.0 0.0 2.1 1.2 1.2 0.3 0.8 0.0	0.0 0.0 0.0 0.0 0.3 0.0 0.6 0.3 0.0	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0.6 0.4 0.9 1.0 4.5 1.9 2.8 2.4 1.3 0.6	11 12 18 15 21 9 8 12 13 10	6 8 5 7 6 6 5 6 5 6 7 5	11891. 11883. May, 1894. 4 February, 1881; September and October 1884.
Year	100.0	36.7	43·3¹	28.5°	63.3	30-8	3.2	2.1	0-5	0.1	0.02	0.0	4.5	218	84	
	•									ILLE,						
		i -			г	1	[From	n July,	1877, to	Decembe	or, 1892, i	nclusiv	e.] 			
January February March April May June June July September October November December	5.7 5.3 4.3 9.4 15.6 12.0 6.2	33.5 38.0 25.8 20.0 32.3 55.3 48.9 44.1 63.3 30.0 31.7 31.7	58. I 50. 0 29. 0 46. 7 64. 5 63. 3 67. 7 54. 8 83. 3 48. 4 43. 3 54. 8	16. I 17. 9 22. 6 10. 0 9. 7 40. 0 22. 6 32. 3 43. 3 16. I 20. 0 6. 5	66.5 62.0 74.2 74.0 67.7 44.7 51.1 55.9 36.7 68.3 68.3	24.5 23.2 18.1 18.0 18.7 28.0 27.4 30.1 33.9 19.4 22.2 23.1	4.5 6.3 3.9 3.3 5.9 11.3 5.9 7.0 6.8 5.0 3.2	1.3 5.6 1.3 2.7 3.9 7.3 11.8 5.9 10.6 5.7 2.7 5.1	3.2 2.8 1.3 2.0 3.9 4.7 3.2 1.1 5.0 4.3 1.7 2.2	0.0 0.0 1.3 0.0 1.9 4.0 0.5 0.0 2.8 0.5 1.1	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.5 1.1 0.0	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	1.9 1.7 2.5 1.8 2.8 2.9 1.4 3.2 3.9 5.3	13 11 10 22 20 9 10 8 5 19 12 12	56 48 89 15 77 71 10 75 15 ⁵	1 1897. 1 1888. 2 December, 1888. 4 April and May, 1892. 5 June, 1889; May and June, 1890.
	'	·			<u></u>	!	'		TOLE	DO, OH	io.			<u>-</u>	<u>'</u>	
	,						[From	January	, 1871, te	Decem	ber, 1891	inclus:	ive.]	. 		
January February March March April May June July Angust September October November December	8-7 7-5 8-1 9-0 7-5	53.8 52.1 50.2 43.3 42.4 43.8 34.6 34.6 34.6 34.6 34.6 40.9 46.2 55.6	80.6 82.1 71.0 73.3 64.5 63.3 48.4 61.3 63.3 67.7 70.0 74.2	22.6 14.3 19.4 30.0 25.8 20.0 22.6 16.1 13.3 19.4 23.3 32.3	46.2 47.9 49.8 56.7 57.6 55.4 65.4 66.0 53.8 44.4	46-1 43-7 41-3 33-7 30-4 22-0 23-5 24-6 30-6 35-4 46-5	5.17828 5.2855555 5.555982 5.55555 5.555555555555555555555555555	2.0 3.6 3.0 4.7 4.8 3.4 3.4 3.8 3.5	0.6 0.5 0.5 0.5 2.5 2.2 1.7 1.48 1.6 1.2	0.0 0.2 0.0 0.0 0.0 0.0 0.2 0.0 0.2	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.2 0.2	0.0	1.5 2.3 1.4 1.7 1.6 1.8 2.1 1.8 3.1 3.2 1.9	11 13 9 11 10 14 12 13 17 13 11 14	8 12 10 9 8 9 8 10 9 10 9	11876. 21871. 31871. 31871. 4September and October, 1885. • February and March, 1889.
<u></u>					· -	·	·	·		BURG, M			·		· 	
,							(From	October,	1871, to	Decemi	er, 1891,	inclusi	ve.]	ı	T	
January February March April May June July August September October November December	9.8 8.4 11.6 11.1 8.7 7.6 7.2 6.8 5.1 9.0 8.6	45.6 43.5 36.3 35.0 30.5 40.0 41.0 35.0 30.9 24.6 35.7 38.3	74.2 71.5 48.3 53.3 41.9 70.0 61.3 66.7 41.9 60.0	22.6 31.0 12.9 16.7 12.9 16.7 19.4 12.9 10.0 6.4 20.0	54-4 56-5 63-7 65-0 69-5 60-0 59-0 69-1 75-4 64-3 61-7	27-2 25.1 16.4 17.5 16.5 24.1 26.6 23.4 15.2 20.0 22.9	6.0 7.8 5.0 5.0 5.7 5.0 4.8 3.1 6.5	6.9 5.8 6.0 3.5 5.7 4.0 3.5 5.5 5.5	4.2 4.1 5.5 3.7 3.2 4.2 4.0 1.8 3.0 1.7 4.0 3.7	1.1 1.2 1.0 2.0 1.6 0.5 0.4 1.1 1.1 0.9 1.1	0.2 0.0 0.6 0.8 0.5 0.0 0.0 0.2 0.2 0.6	0.0 0.2 0.0 0.0 0.0 0.0 0.2 0.0	3.2 2.6 5.4 4.5 4.3 2.4 2.5 2.8 5.2 3.8 4.0	10 12 16 12 18 15 16 22 16 18	12 10 97 58 97 96 79	¹ 1882. ² 1881. ³ July and August, 1874. ⁴ January, 1877; November and December 1880.

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							(From		YANKT	ON, 8.	DAK. ber, 1891	•	•			
	dis- n of ation.		tage of c			Perc	Clas	sificatio	on of rair	ıfall:			rain lay.		test cutive	Notes.
Month.	Monthly dis- tribution of precipitation.	Mean.	Max.	Min.	.00	T. to .25	. 26 to	.51 to	1.01 to 2.00	2.01 to 3.00	3.01 to 5.00	Over 5.00	Heaviest in one	With- out rain.	With rain.	Notes.
January February March April May June July August September October November December	Per ct. 2.3 3.0 4.5 11.6 15.8 16.1 13.9 11.6 10.2 5.3 2.3	33.9 33.5 36.6 39.8 46.5 42.3 37.8 35.5 32.1 27.0 24.6 31.7	54.8 82.7 80.6 70.0 87.0 63.3 58.0 90.3 67.7 53.3 61.2	12.9 7.1 16.0 16.6 25.8 26.1 16.0 16.0 10.0 12.9	66: I 66: 5 63: 4 60: 2 53: 5 57: 7 62: 2 64: 5 67: 9 73: 0 75: 4 68: 3	32.4 31.1 32.3 29.0 31.2 26.3 25.6 24.9 23.5 20.9 23.0 29.0	1.3 1.6 2.7 4.1 6.5 6.5 4.2 3.9 3.0 1.1	0.2 0.6 1.4 3.9 5.7 5.3 4.8 3.6 1.9 2.9 0.3	0.0 0.2 0.2 2.4 2.5 3.7 2.7 2.1 0.2 0.0.	0.0 0.0 0.2 0.6 0.2 0.3 0.2 0.7 0.0	0.0 0.0 0.2 0.0 0.3 0.2 0.0 0.2	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	Inches. 0.5 1.1 1.2 3.9 2.5 3.2 3.1 2.5 1.3 2.2	14 22 14 14 11 12 13 16 17 20 23 25	6 14 9 11 14 8 6 11 7 13 7	1 1888. 2 1880. *January and February, 1877. 4 February and May, 1888.
Year	100.0	35. I	65.31	24.02	64.9	27.4	3.3	2.7	1.4	0.2	0.08	0.0	3.9	328	144	
							(From N		WASHIN	•	D. C. aber, 180	r. inclus	tive.1			
Innuar							- 		1	ı		 I	ı	i		1.00-
January February March April May June July August September November December	7.8 7.58 7.58 7.6 7.6 7.6 7.6 7.6 7.6 7.6 7.6 7.6 7.6	42.7 43.3 45.8 42.7 42.6 42.4 41.5 43.8 34.0 34.5 37.6	67.7 67.9 67.7 66.7 63.3 58.1 61.3 66.7 67.7 60.0 54.8	19.4 14.3 25.8 26.7 19.4 23.3 25.8 25.8 13.3 9.7 16.7 22.6	57·3 56·7 54·2 57·3 57·4 58·5 56·2 66·0 65·5 62·4	28.5 27.3 29.8 30.0 26.4 28.3 27.5 29.8 21.5 24.4 26.5 26.2	6.8 7.4 6.8 7.0 7.1 5.5 4.9 4.1 4.0 5.58	5.1 6.1 5.7 3.5 9.9 4.3 4.5 4.0 3.6 4.0	2.0 2.5 3.2 1.7 3.5 3.1 3.7 3.8 1.4 1.8 2.3	0.3 0.0 0.3 0.5 1.0 1.1 0.9 0.3 0.3 0.3	0.0 0.0 0.2 0.0 0.1 0.6 0.3 0.0 0.0	0.0	2.3 1.98 3.2 2.4 4.2 4.2 2.8 4.0 2.8	13 20 10 8 14 12 10 10 10 14 18 11	7 12 7 8 11 7 7 10 96 7 8	11890. 21874. 3 October and November, 1874. 4 February, 1884.
Year	100-0	40.8	54.01	30-42	59-2	27.2	5.7	4.6	2.6	0.5	0.2	0.0	4.2	268	124	
-									-		PRESCO ber, 1891	•				
January February March April June July August September October November December Year Mary Mary Mary Mary Mary Mary Mary Ma	1.2 17.7 17.2 7.1 4.1	12.6 18.5 15.4 14.8 8.3 4.7 30.1 35.2 10.1 8.3 16.4	35.5 41.4 45.2 30.0 19.4 20.0 67.7 61.3 40.0 25.8 50.0 48.4	0.0 3.4 0.0 3.3 0.0 0.0 9.7 6.5 0.0 0.0 0.0	87.4 81.5 84.6 85.2 91.7 95.3 69.9 64.8 85.8 89.9 91.7 83.6	8.4 10.8 9.8 10.8 6.3 4.1 18.3 22.9 10.0 7.0 4.4 9.2	2.0 2.8 2.5 0.5 6.3 6.0 2.4 1.8 2.1	1.2 2.4 1.3 0.9 0.2 3.8 5.0 0.8 1.0	0.6 1.7 0.9 0.2 0.0 1.3 1.2 0.9 0.3 0.6 1.5	0.0 0.0 0.0 0.0 0.0 0.0 0.3 0.1 0.2 0.0 0.0	0.3 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	4.2 1.7 1.9 1.2 0.5 2.5 2.7 2.2 1.4 1.6	31 24 31 25 31 30 18 15 30 31 30 31	8 6 6 5 5 4 4 7 9 5 5 7 8 9 5	No record from November 1, 1874, to May 31, 1875. 1888. 21873. 31876. 4 October 16, 1876, to January 11, 1877. 5 June 29 to July 7, 1882; August, 1881.
		!					i	1	' WILMIN	GTON,	N. C.					
	;	r -,					[From				oer, 1891,	inclusi	ve.]			,
January February March March April May June July August September October November December	7.0 5.7 7.5 5.5 7.5 10.5 12.8 13.9 12.0 7.3 4.6 5.7	39-5 38-9 36-3 30-8 32-4 39-7 41-5 48-2 34-4 26-4 28-4 34-9	58. 1 67. 9 61. 3 43. 3 54. 8 56. 7 74. 2 64. 5 67. 3 38. 7 50. 0 57. 6	19.4 21.4 16.1 16.7 16.1 23.3 25.8 22.6 16.7 6.4 10.0 3.2	60.5 61.1 63.7 69.2 67.6 60.3 55.5 51.8 65.6 71.6 65.1	24.9 23.6 22.6 19.0 18.6 20.3 22.9 24.3 17.8 13.7 18.4 22.6	6.8 8.6 4.6 4.6 6.8 7.1 96.0 4.5 4.3 5.7 6.0	5-4 6-3 4-9 6-7 7-7 4-3 3-8 4-5 5-4	1.8 2.5 2.2 2.9 3.2 4.6 4.6 3.3 2.8 2.0 3.0	0.3 0.0 0.2 0.2 1.1 1.5 1.1 0.6 0.0	0.3 0.2 0.5 0.0 0.2 0.6 0.8 1.9 0.6 0.0	0.0 0.0 0.0 0.0 0.0 0.2 0.2 0.2 0.0 0.0	3.52 4.8 2.6 2.8 7.0 8.0 4.2 2.0 3.0 8.0	18 10 15 19 17 10 15 12 13 26 18 30	8 6 8 5 9 7 6 7	¹ 1891. ² 1871. ³ November and December, 1889. ⁴ August, 1880; July and August, 1884.
!	!		• ·	*				-	YUM	A, ARIZ	'					
					·		[From	October		•	ber, 1891,	inclusi	ve.]			
J uary F ruary A rid A il J e J y A gust C ober C ember	9·3 9·3	7.7 11.5 8.5 5.0 2.4 1.7 7.7 12.5 4.0 3.6 4.7 9.9	25.8 28.6 32.3 13.3 19.4 6.7 19.4 29.0 10.0 9.7 20.0 32.3	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	92.3 88.5 91.5 95.0 97.6 98.3 92.3 87.5 96.0 95.3 90.1	6. I 9. 0 7. 9 4. 6 2. 2 I. 7 7. I II. 5 3. 2 2. 6 3. 7 7. 5	1.0 0.9 0.4 0.2 0.0 0.4 0.4 0.4 0.2 1.4	0.6 0.9 0.2 0.0 0.0 0.0 0.2 0.2 0.4 0.2 0.6	0.0 0.7 0.0 0.0 0.0 0.0 0.4 0.2 0.2	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0.0	0.9 1.2 0.9 0.3 0.1 0.6 1.6 0.8 1.7	31 28 31 30 31 30 31 30 31 30 31	444425224433466	¹ 1884. ² 1880. ³ April to September, 1879. ⁴ December, 1884.

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Table VI.—Heaviest rainfulls at selected representative stations.

Station.	No. of years.	Year.	Month.	72 hours.	48 hours.	hours.	Station.	No. of years.	Year.	Month.	72 hours.	48 hours,	24 hours.
Albany, N. Y	18	49.3	8.9	5.1	4.3	3.2	Memphis, Tenn	21	73-4	18.2	13.6	13.4	8.9
Alpena, Mich	19.	45-5	13.2	δ. o	5.2	3.9	Mobile, Ala	21	90.9	15.2	12.9	10.8	7.3
Assinniboine, Fort, Mont	ΙÍ	25.5	9.7	4.3	4.3	3.3	Montgomery, Ala	19	64-1	11.6	8.4	8. ı	6.0
Atlanta, Ga	21	65.0	15.8	10.1	9.6	7.4	Nashville, Tenn	21	67.3	14.5	8.0	5.6	5.2
Augusta, Ga	22	57 - 1	11.9	6.7	6.1	4.9	New Orleans, La	21	85.6	22.7	11.4	9.8	8.9
Bismarck, N. Dak	17	31.0	6.6	. 3.5	3.4	2.4	Norfolk, Va	22	70.9	11.9	7.2	6. 1	4.6
Boston, Mass	22	65.6	11.0	6.4	6.2	4.4	North Platte, Nebr	17	30. 1	8.5	3.3	3.3	3-2
Buffalo, N. Y	22	60∙3	10.6	4.4	3.5	3.2	Omaha, Nebr	22	48.8	12.7	5.5	5-4	5.0
Buford Fort, N. Dak	24	23.3	7.1	3.7	3.6	3.2	Oswego, N. Y	22	55.9	10.5	4.5	4.0	3.6
Brownsville, Tex	15	60.3	30.6	• • • • • • • • • • • • • • • • • • • •			Palestine, Tex	10	59.6	17.2	7.5	6.7	4-4
Cairo, Ill	20	61.5	15.0	5.7	5.2	4.2	Philadelphia, Pa	66	61.2	16.8	10-1	8.4	5.2
Charleston, S. C	64	78.4	19.2	11.6	9.6	8.3	Pittsburg, Pa	21	50.6	9.5	4·5 3·8	4.2	3.6
Cheyenne, Wyo	22	19.3	4.8	2.4	2.2	1.9	Port Huron, Mich	17	41.0	7.4	3.8	3.8	3.3
Chicago, 111	22	45.8	11.3	4.2	6.4	5.6	l'ortland, Oreg	22	67.2	20. I	10.8	10.8	6.7
Cincinnati, Ohio	21	54.8	11.7	4.6	3.2	3.0	Prescott, Ariz	20	26.7	8.0	4.9	4.3	5-0
Cleveland, Ohio	22	53.6	10.2	5.1	5.0	3.6	Red Bluff, Cal	20	49· ī	20.7	6.3	5.9	3.0
Deadwood, S. Dak	9	33.9	10.3				St. Louis, Mo	52	68.8	17.1	6.7	6.7	4.5
Denver, Colo	22	21.5	8.6	3.8	6.7	6.5	St. Paul, Minn	22	39.2	11.7	5.1	4.6	3.7
Dodge City, Kans	17	33.7	12.8	5.9	4.1	3.2	St. Vincent, Minn	20	33.9	9.8	4.6	4.6	4.5
Dubuque, lows	32	55-4	10.5	5.8	5-4	4.5	Sacramentó, Cal	42	34.8	15.0	8.7	8.4	5-3
Duluth, Minn	21	45.3	11.5	4.2	4.0	3.0	Salt Lake City, Utah	24	38.0	10.0	2.6	2.4	2.0
Eastport, Me	18	45·3 64·6		7.1	6.3	5.5	San Antonio, Tex	21	42.0	11-4	6.9	5.8	4-5
El Paso, Tex	28	21.9	8.2	2.2	2.1	2.0	San Diego, Cal	42	27.5	9.0	4.2	3.0	2.8
Fort Smith, Ark	17	61.0	14.3	8.5	6.3	5.1	San Francisco, Cal	42	38.7	24.4	6.8	5.9	4-7
Galveston, Tex	20	67.0	26.0	12.7	10.1	7.9	Santa Fe, N. Mex	33	24.9	7.9	3.6	2.5	1.5
Helena, Mont	10	20.1	4.7	3.2	2.7	2.2	Shreveport, La	20	66.5	15.6	8.8	8.0	6.9
Huron, S. Dak	10	28. I	8.1	3.3	3.2	2.1	Spokane, Wash	10	25.7	5.1	2.4	2.3	2.2
Indianapolis, Ind	22	57 · 5	13.1	6.4	6.0	4.3	Toledo, Ohio	21	45.8	8.5	3.5	3.5	3.2
Jacksonville, Fla	22	82.1	21.1	10.3	8-6	6.2	Vicksburg, Miss	20	84.3	22.2	8.1	7.0	5.4
Keokuk, Iowa	20	51.5	12.7	5.5	5.3	4-8	Walla Walla, Wash	23	40.6	12.8	2.1	1.9	1.6
Key West, Fla	21	58.4	19.8	11.8	11.0	8.2	Washington, D.C	22	61.3	12.9	5.3	4-7	4-2
Knoxville, Tenn	21	73.8	17.3	7.8	6.5	5.6	Winnemucca, Nev	20	18.2	5.2	1.9	1.8	1.1
Leavenworth, Kans	55	59.8	15.8	4.4	5.1	3.6	Yuma, Ariz	16	5.9	2.5	2.4	2.4	1.7
Lynchburg, Va	20	60.5	11.8	6.2	5.5	4.7	,					" "	